AGRICULTURAL LABOUR IN RICE BASED FARMING SYSTEM: A GENDER BASED MULTIDIMENSIONAL ANALYSIS

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DECLARATION

I hereby declare that this thesis entitled **"Agricultural labour in rice based farming system: A gender based multidimensional analysis"** is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, associateship, fellowship or other similar title, of any other university or society.

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Dedicated to

My Most Beloved

.....Acchan, Amma,

.....Vallyamma & late. Maaman

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Introduction

1. INTRODUCTION

"Effective, sustainable rice production that provides food security to all people depends on gender roles being fully understood and considered in policy, planning, research and extension. Gender analysis is therefore an important tool in the development of rice farming". (FAO, 2004)

Rice is an important crop that has greatly contributed in transforming Indian agriculture from a moribund state at the time of independence to a resilient production system of a food secure nation. This much-touted progress in food production happened mainly due to the grit and toil of agricultural labourers. In general, agricultural labourers are one of the most exploited, oppressed and dispossessed classes in rural hierarchy. Anyhow their condition varies from state to state like farm servants, quasi-slaves, non-casual permanent labourers and casual labourers. To an average worker there is neither guarantee of employment security nor income security.

Generally, agriculture involves self-employment and wage employment. But in rice farming most of the agricultural operations are done by hired agricultural labourers. The situation thus demands an understanding of activity performance of women and men agricultural labourers whose lives are fundamentally structured in different ways consequent to internalising socially approved gender roles. The profile characteristics, labour participation in different farm operations, employment pattern, attitude constraints etc would bring us new insights and information of rice labour based on gender.

Rice based farming system in Kerala continues to remain a very important farming system because of cultural, socio-economic and ecological reasons. It utilizes bulk of agricultural labour compared to other farming systems. There has been a steady fall in the area and production of paddy over the past few decades, though rice is the staple food of the state's three crores of people. From 7.79 lakh hectares in 1960-61 the area under rice cultivation in Kerala has reduced to 3.11

lakh hectares in 2002-03. Other than being a food provider, rice front of the state gives employment to the rural men and women of about 20 lakh labour families. Conversion of rice fields and the shift in cropping pattern in favour of less labour intensive and relatively more profitable plantation crops like arecanut, rubber and coconut reduced the employment opportunities of labourers, especially the women.

In rice, traditionally women labourers do most of the agricultural operations like sowing, transplanting, weeding, harvesting, threshing, cleaning of grains, storage etc... So the shift from food crops to cash crops has adversely affected the employment security of women agricultural labour. Women in most rural societies do not have control over the resources. The gap between men and women in control of productive assets, employment security, income level, informational access and social welfare results in newer forms of oppression.

Consequent to globalisation and WTO agreements our farming developed falling economic and structural changes. Agriculture has now increasingly become export oriented business when in terms dictated by international equations disregarding the interests of our own farmers. This era of food industrialization and agricultural corporatization has created a socio-economic threat to the existing small and marginal farmers. They are suffer from multiple handicaps. They are exposed by trade openness to falling global prices even as input cost and credit cost rose. Rice cultivators who have to depend on market forces, which continue to be hostile to their produce, now turns into casual labourers from the category of sole farmers.

The rice area decline has lead the traditionally trained crop-specific labourers to switch over to non-farm activities. The subsequent seasonal shortage of labour poses serious threat to the very existence and continuation of the otherwise shrinking rice area. The seasonal labour shortage and the high wage rate which is far above the productivity level has rather compelled the small and marginal farmers to leave land either fallow or switch over to other less labour intensive crops.

On the labourers side, though wages increased over a time, the gross income declined as days of employment fell faster than the rise in wage rate. New addition to the rural work force declined sharply in the agricultural sector as most of them prefer non-agricultural labour. This is more so evident in the female workforce. The introduction of capital-intensive technologies within agriculture sector also had differential impact on women due to lack of access to technology. This accentuated casualisation of work for both men and women agriculture labour but it is more pronounced in operations such as transplanting, weeding and harvesting where female labour is primarily employed.

According to the ILO (2003): "Women represent fifty percent of the population, make up thirty percent of labour force, sixty percent of all working hours, receive ten percent of the world's income and own even less than one percent of the world property". To make sustainable improvements in the livelihoods of rural women, their access to credit and opportunities for employment, enterprise development and income generation opportunities also have to be improved. The need for extension to play a wider role to achieve these needs is presently accepted at policy level, although in practice there is little evidence of such a change.

Gender information on agriculture reveals that women perform more than sixty percent of agricultural operations but their contributions remained to be undervalued for economic analysis and policy formulation, while men's contributions become the focus of attention in development planning. It is high time that gender as socially constructed assets is understood in the right perspective for developing harmonious and non-conflictual roles of women and men in agricultural production process.

Negligence of rice based farming system has destroyed the ecological base of agriculture. Practices like application of organic manure, green manure crop cultivation and crop rotation with pulses and vegetables have been followed in rice cultivation since ages. Contrary to this, the commercialised agriculture separates crops and livestock into distinct production components, which no

longer supports each other. The straw, an important source of soil fertility and animal food has never been counted in the one-dimensional calculus of rice productivity. Crop production strategies that ignore the need for livestock leads to the substitution of non-sustainable chemical inputs for sustainable soil fertility renewed with animal wastes. This elimination of organic matter reduces the capacity of the land to conserve soil and water. In the long run, drought and desertification will result.

Thus the abandoning of rice based farming system, on the one hand has generated conflicts between male and female labour: it creates an ecologically unstable constellation of soil, water, crops and animals on the other.

Keeping all these in view, the present investigation was undertaken with the following objectives:

Studying the female and male labour participation in the major operations of rice based farming system, their employment pattern and profile characteristics. The study also focuses on influence of labour organizations among agricultural labourers, the constraints experienced by the female and male agricultural labourers and their attitude towards improved farm practices.

Need for the study

Given the fact that, gender inequalities operate within the large matrix of structural inequalities such as class, caste, race and ethnicity, the implications of such unequal power relations within agrarian sector needs to be unravelled. More over understanding of gender information on agricultural labour will help the policy makers and administrators in designing appropriate gender sensitised strategies for the welfare of agricultural labour force.

Scope of the study

The study would bring out a clear picture of the situation of agricultural labourers employed in rice base farming system inspite of the current trend of rapid decrease in rice cultivation. The results of this study would facilitate the

planners and policy makers to identify the constraints experienced by agricultural labourers especially female labourers.

Limitations of the study

The present study had the limitation of time and money, as it was undertaken as part of the requirement for the P.G. Programme. The study location was confined to only two panchayats. This may perhaps narrow down the scope of generalizing the results for the entire state. The study was based on the expressed opinion of the respondent; it may or may not be free from their individual biases or prejudices. Inspite of these, every effort is taken to conduct the study as systematic as possible.

Theoretical Orientation

2. THEORETICAL ORIENTATION

This chapter aims at developing a theoretical framework on the concept of gender analysis particularly in agricultural labour rice based farming system. This has been furnished on the basis of definitions, ideas and concepts. Each topic presented in this chapter is associated with the available research findings either directly or indirectly. This helps to give a proper orientation of the study and also to place the problem on a theoretical perspective. This also assists in evaluating one's own research efforts by comparing them with the related effort of others.

The review is presented under the following headings.

2.1 Agricultural labour

2.2 Concept of gender and gender analysis

2.3 Rice based farming system

2.4 Gender analysis in rice based farming system

2.5 Gender-wise profile characteristics of agricultural labour

2.6 Labour organisations and its influence

2.7 Labour bank

2.8 Time utilization pattern of labourers

2.9 Employment pattern of agricultural labourers

2.10 Wage structure

2.11 Extent of labour participation

2.12 Attitude of female and male agricultural labourers towards improved farm practices

2.13 Constraints experienced by the agricultural labourers: A gender perspective

2.1 AGRICULTURAL LABOUR

In this study agricultural labourer is defined as "a person who is involved in agricultural and animal husbandry operations as hired wage labour, and also whose main or subsidiary source of livelihood depends on wage labour in the same".

According to Report of National Commission on Labour (1969) "an agricultural labour is, one who is basically unskilled and unorganised and has little for his livelihood".

Bansil (1975) stated that an agricultural labour in terms of economics could be defined as "a person who works for wages in agriculture".

Rao (1976) stated that in the 1971 census, an agricultural labourer was defined as " a person who works in another person's land for wages in money, kind or share without any right or lease or contract on the land which he works".

Padmanabhan (1981) defined agricultural labourer as "a person doing any kind of agricultural operation for a farmer in receipt of wages in the form of either cash or kind or both".

Alex (1994) defined agricultural labourer as "a person doing any kind of agricultural operation in paddy production, for a farmer in receipt of cash, kind or both".

Ramanathan (1995) stated that only by recognizing the dignity of labour and extending sympathetic attitude towards them, one could get things done by the labourers without any friction. Hence the understanding of human behaviour at work, and the recognition of egalitarian relational norms by the paddy farmers might be the reasons for the better performance in tolerance and economic dimensions of farmer-labourer relationship.

Shanthy (1996) in her study on "comparative analysis of characteristics of women labourers engaged in rice farming in the social systems of Kollam and Kanyakumari districts" defined agricultural labour as "women performing

agricultural operations in paddy cultivation for a farmer in receipt of wages in the form of cash, kind or both".

Mahesh (2002) defined an agricultural labour as "a person who follows one or more of the following agricultural occupations in the capacity of a labourer on hire or exchange whether paid wholly in cash or kind or partly in cash or partly in kind.

a. Farming including cultivation, tillage of soil etc...

b. Dairy farming, rearing of livestock or poultry.

c. Any practice performed on a farm as incidental to or in conjunction with farm operations".

2.2 CONCEPT OF GENDER AND GENDER ANALYSIS

2.2.1 Gender

Gender is a system of relationship rather than a set of attributes, which distinguish male and female. Gender is the term for the socially and culturally defined roles for each of the sexes. Although women are women everywhere on earth and men are men, what is considered a "normal activity" for each of the sexes varies from place to place and from culture to culture. In one place it is normal for women to do most of the land preparation, whereas in another exclusively men may do it. The variation in roles suggests that the different activities of women and men in practice have less to do with their biological sex, than with the social and cultural context that they live. Researchers talk more about gender rather than sex because while a person's sex doesn't change, gender roles are socially determined and can evolve together with society.

Bhattacharya and Rani (1992) defined gender as the relative status of men and women in a given society because of their being 'men' or 'women'. Gender describes roles, identities and power relations of men and women that are defined by the society and are socially constructed.

Chakravarthy (1995) stated that quite often 'sex' and 'gender' are used as synonyms though 'sex' basically indicates biological and physical differences between members of the same species whereas 'gender' is a socially constructed perception of an individual based on expected behaviour and specific roles assigned to him or her by the society.

Krishnaraj and Shah (2004) opined that gender may be defined as a network of beliefs, personality traits, attitudes, feelings, values, behaviour and activities that differentiate men from women in society. It has a historical dimension and takes place within different micro and macro spheres such as the state, labour market, schools, media, law and above all the family. It is a critical ingredient in defining, demarcating and structuring caste and class.

Sulaiman (2004) remarked that, the term 'sex' denotes the physical and biological differences between men and women, whereas the term 'gender' describes the socially determined attributes of men and women. This includes male and female roles in economic functions, differential access to and control over resources and differences in knowledge and skills. The sexual division of labour for both agricultural and domestic tasks varies greatly by community and ethnic group and it is difficult to make generalisations about the roles that men, women and children play.

2.2.2 Gender Analysis

Sexual division of labour is an inherent aspect of gender relations, which arises in the family arena, but overflows and structures women's economical position. Historical, religious, social and economic forces have resulted in this division of labour among family members and have established specific roles for men and women. This functions as a form of control by prescribing and proscribing what men and women should do and should not do, and by the differential valuation attached to what men and women do. Gender analysis in agriculture will be a process to make clear that women remain invisible, their presence not counted, their contribution to agriculture remains unaccounted and their policies and problems remain unattended.

According to Poats (1988) the term gender analysis in agriculture refers to the determination of who does what, why and with what resources towards improving their overall production and the standard of living. He also stated that it is the most effective tool to open up the farm household and to understand its behaviour.

According to Bhattacharya and Rani (1992) gender analysis is a methodology, which is used to identify the roles and responsibilities of various members of the household (male and female) and their access to and control over resources and benefits under prevailing institutional norms and mechanisms.

2.3 RICE BASED FARMING SYSTEM

Farming system is a complex interrelated matrix of soils, plants, animals, implements, power, labour, capital and other inputs controlled in part by farming families and influenced to varying degrees by political, economic, institutional and social forces that operate at many levels. The farming system, therefore, refers to the farm as an entity of interdependent farming enterprises carried out on the farm. Rice based farming system of Thiruvanathapuram district comprises of various cropping patterns like of Rice-Vegetables-Vegetables, Rice-vegetables-Pulses, Rice-Rice-Pulses and Rice-Banana.

In this study rice based farming is defined as "a mix of farm extension comprising rice as the main crop followed by any subsequent crop cultivation, livestock and poultry rearing that transforms land, capital and labour into useful products that can be consumed or sold".

According to Shaner *et al.* (1982) farming system refers to a particular arrangement of farming enterprises (e.g. cropping, livestock keeping, processing farm products) that are managed to respond to the physical, biological and socio economic environment and in accordance with the farmer's goals, preferences and resources. Any farming system, however, is subject to what is potentially possible in technical terms. It is the human environment that provides sufficient condition for development and utilization of a particular system. A farming system

obviously is very complex. The various farming systems prevailing in Kerala are rice based farming system, coconut based farming system, tapioca based farming system and also homestead based farming system.

2.4 GENDER ANALYSIS IN RICE BASED FARMING SYSTEM

Rice based farming system is the largest sector consisting a formidable part of female workforce. This includes transplanting, weeding, threshing and reaping. Females also participate equivalently with their male counterparts in livestock rearing, watering horticultural crops, carrying manures and storage of food grains.

Decline of rice area, increased usage of weedicides and machines like transplanter, combined harvester etc... has displaced women from agriculture and has made them economically dependent on men for sustenance. The migration of male work force from low prospect regions to faster developing industrial centres has also resulted in a sizeable upheaval in the socio-economic responsibility of women. In this study gender analysis is used as a methodology to identify the roles and tasks performed by male and female agricultural labourers in rice based farming system.

Kebkabe (1984) in her study on role of women in agricultural production in Ethopia reported that women constitute nearly 50 percent of rural workforce: they are directly or indirectly involved in agricultural work and their major activities focus on food production. They share responsibility with men for preparing seedbeds, planting, transplanting, harvesting and marketing of vegetables. Women perform all the tasks except land preparation, seed selection and scaring off birds.

Reddy and Prasad (1988) reported that in Meghalaya, women carry out various operations from farm jobs, to marketing of produce and business. They monopolise transplanting, weeding, harvesting, storage of seeds and grains, harvesting vegetables and home gardening and play supportive role in land preparation, seed sowing plant protection and threshing. In the work related to animal husbandry, women seem to monopolise almost all operations such as

feeding and watering of animals, cleaning of sheds, fodder collection and cooking grains for cattle.

A comparative analysis of women's roles in agricultural production and decision making in the households in five villages of semi arid tropics by Mangesha (1990) indicated that women spent more time than men in activities on agricultural tasks.

Varma and Sinha (1991) reported that in paddy cultivation on an average a woman devotes 17.1 labour-days as against only 11.5 labour-days devoted by a man in cultivation of one acre of paddy.

Vijayalakshmi (1995) reported that none of the farmwomen participated in ploughing, land preparation and irrigation management. Traditionally women are allotted more arduous, time consuming and low paid works like transplanting, weeding and sowing.

Reddy (1999) reported that in respect of rice crop farm women have 'most often' performed all the roles except seed treatment which was rarely done by them.

Geethakutty (2004) reported that except in field operations and marketing of produce, in all other operations- seeding, transplanting, weeding, fertilizer and manure applications, irrigation, plant protection, harvesting, drying, processing, storing and cooking women are either the sole performers or joint performers in any rice farming system.

Thangamani and Umarani (2004) reported that in paddy cultivation threshing is an activity, which is performed by women and men jointly.

2.5 GENDER-WISE PROFILE CHARACTERISTICS OF AGRICULTURAL LABOUR

Historically, the lowest sections of the social order that lives in great penury and deprivation constitute the agricultural labour force. Hence, while carrying out any research with agricultural labourers a researcher needs to have a good knowledge regarding their conditions of life.

2.5.1 Age

Kanwar and Koranne (1989) observed that women working in agriculture fall in the age group of 21 to 35 years.

Menon (1994) reported that majority of the farm women belonged to middle age.

Pillai (2004) opined that rice cultivation could be sustained only by attracting younger generations to the farms by introducing appropriate mechanical practices that would reduce drudgery, improve timeliness of operations and provide attractive wages to farm workers.

2.5.2 Caste

Sharma and Singh (1970) revealed that role performance of agricultural labourers coming from poor and backward castes were found to be higher than that of others.

Alexander (1981) stated that agricultural labour was the occupation of scheduled caste people, but developments such like the growth of population and scarcity of land pushed many members of higher caste into it.

Sen (1985) stated that due to the low status associated with work in the agricultural field, this work is often done by members of the schedule caste households and schedule tribe households in various parts of the country.

Yadav and Azad (1987) reported that number of female workers per household were higher in scheduled castes as compared to backward and upper caste groups.

Jhingan (1990) stated that if the society to which the workers belong is backward and is based on caste and creed relationship, workers will not work in cooperation with workers belonging to other castes and thus labour efficiency will be low.

Bhople and Patki (1992) found that majority of respondents among agricultural labourers belonged to backward caste.

2.5.3 Family size

Kumar (1980) revealed that joint family system is not prevalent among agricultural labourers.

Mansingh (1990) stated that two thirds of the women agricultural labourers live in nuclear families having upto five members.

Alauddin *et al.* (1998) reported that majority of labourer respondents (78%) live in small family having upto five members.

Nath (2002) reported that majority of labourer respondents (76 %) have family size of upto four to five members.

2.5.4 Family educational status

Singh and Chander (1983) observed that education was found to exercise non-significant effect on women's participation.

Ranganathan (1984) reported that education level had a positive relationship with attitude of farm youth towards farming.

Thenmozhi (1990) reported that most of the farmwomen (43.33%) had education up to middle school level.

Alex (1994) reported that education was not associated with the role performance of labourers with regard to their participation in decision making with farmers in paddy production.

Alauddin *et al.* (1998) reported that majority of the labourer respondents (52%) were educated up to elementary level.

Thomas (1998) reported that education of farm women was positively and significantly related to participation in various programmes.

Hemalatha *et al.* (2003) reported that the education to girls as well as boys to low-income groups reduced the availability of labour to agricultural activities.

2.5.5 Occupation

Alauddin *et al.* (1998) reported that 60 percent of respondents engaged in farming were agricultural labourers. Of that 29 percent were engaged only in agricultural labour. The labourers engaged in non – farm occupation was 16 percent.

Mahesh (2002) reported that among the rural labour force some of the agricultural labourers have shifted to non-agricultural work. As a consequence, this occupational shift in labour force has affected supply of rural labour especially farm labour.

2.5.6 Land Holdings

According to Manoj (2000), total area under paddy was found to have positive relationship and significant correlation with adoption behaviour.

Suthan (2003) reported that 37.33 percent of the respondent's area under vegetable cultivation was up to 0.25 acres.

Priya (2003) reported that majority of the vegetable growers (85 %) had medium level of area under vegetable cultivation.

Balachandran (2004) observed that majority of organic farmers were small and marginal farmers with land holding up to two acres.

2.5.7 Annual Income

Wilkening and Johnson (1958) reported that status of women was positively associated with their involvement in major decisions only in those families having both high income and social participation.

Govind (1984) found that annual income of farmwives gave significantly negative association with the extent of participation in farm activities.

Rajendralal (1997) reported a non-significant relationship between annual income and perception of schedule caste farm families about special component plan schemes.

Thresia (2004) reported that underemployment, low wage rates, and gender discrimination in the wages make the income of the households very low.

2.5.8 Experience in Agricultural Labour

According to Gurusamy (1987) and Vimala (1989) farmwomen had high level of farming experience, followed by medium and low levels.

Jhingan (1990) stated that with the repetition of same work, one gets specialized in it. This specialization enables him to do work in the best possible way, which improves his skill.

Alex (1994) reported positive and significant association between farming experience and role performance of agricultural labourers in decision-making.

Devi (1994) revealed that a largest proportion (83.33%) of farmwomen had high level of farming experience.

Shanthy (1996) reported that the women agricultural labourers apart from agricultural works engage themselves in non-agricultural occupation for most part of the year.

2.5.9 Mass Media Exposure

Renukaradhya (1983) found a significant relationship between mass media participation of trained farmers with their level of economic performance.

Bhagat and Mathur (1989) reported that women's programmes and rural programmes, which are educational in nature, were preferred by farmwomen. They opined that radio provide education to them for improving their living, increasing their knowledge and provide information on home improvement.

Anatharaman (1991) did not find any influence of mass media participation on role expectation of labourers.

Savithri (1992) concluded that 62.27 percent of the farm women were found to have high level of exposure to mass media followed by medium and low levels with24.00 percent and 13.73 percent respectively.

Pradeepkumar (1993) reported that mass media contact was positively and significantly related with the extent of participation in agricultural and allied fields.

2.5.10 Economic Motivation

Taylor (1991) reported that economic motivation had positive association with labour productivity.

Senthamarai (1996) revealed that 42.5 percent of the respondents had low level of economic motivation followed by medium 32.5 percent and high 25 percent.

Shanthy (1996) reported that earning money to meet day-to-day requirements is the prime motive of women labourers in rice farming and hence economic motivation has emerged as the most contributing variable to managerial efficiency of those farmwomen.

Sivaprasad (1997) found that economic motivation was an important character that persuades people to adopt improved practices that are worthy.

Thomas (1998) reported that the more one is motivated by economic ends, the more he will try to adopt the practices which are aimed at increasing sustainable returns.

2.5.11 Contact with Extension Agency

Mishra and Tripathy (1991) revealed that women had very little contact with extension staff and were not exposed to formal sources of information.

Nizamudeen (1996) reported that a vast majority of the respondents had higher contact with extension agency.

Parvathy (2000) reported that 53% of rural women were found to have high level of extension orientation.

2.5.12 Political Participation

Alexander (1974) reported that political affiliation was not associated with role expectation of farmers, but associated in the case of labourers.

Mencher (1975) reported that politicalisation of agricultural workers through trade unionism had led to an increase in the wage rates, and other conditions of daily life for the workers.

Subramony (1979) observed no association of political affiliation with the successfulness of industrial supervisors.

Lukose (1982) found a significant association between political affiliation and satisfaction of labour performance.

2.5.13 Labour Union Participation

Alexander (1974) observed that in Thanjavur district of Tamil Nadu and Alapuzha district of Kerala the agricultural labourers were able to achieve considerable improvement in their status through participation in labour union activities. The unions operating in the area were affiliated with the communist parties and worked as agencies for transferring their ideology to the labourers. Owing to this, inhuman practices disappeared, limitation in working hours achieved, wage rates increased and there had been a reduction in the observance of untouchability and other traditional practices.

Encylopaedia.com (2002) defined labour union as the association of workers for the purpose of improving their economic status and working conditions through collective bargaining with employed.

Thomas (2002) reported that education is a pivotal factor influencing labour union participation among the agricultural labourers.

Pillai (2004) reported that within the Kerala state in Kuttanad region, since industries are few, labour unions resist introduction of mechanization in rice cultivation for fear of losing available working days. But in Palakkad region

majority of labour union leaders were aware of the need for farm mechanization and were favourable for introduction of mechanization.

2.5.14 Work Commitment

Desai (1969) stated that feeling of responsibility among agricultural labourers was related to work output.

According to Currie (1977) ability and willingness of the worker to achieve optimum performance affect the performance of the worker.

Schregle (1978) while discussing the essential features of codetermination system stated that sharing in management decision making also implied sharing in the responsibilities arising from the decisions jointly taken.

Padmanabhan (1981) found significant positive correlation between agricultural labourer's participation in decision making with farmer and feeling of responsibility in increasing agricultural production.

Alex (1994) opined that lack of permanency of employment under a farmer, shorter periods of employment, limited involvement in paddy production process and absence of adequate acquaintance with the farmer might have caused the absence of higher degree of work commitment and feeling of responsibility among female agricultural labourers.

2.6 LABOUR ORGANISATIONS AND ITS INFLUENCE

Unionisation of labour that began in early 'thirties' has been remarkable achievement of Kerala as it gave workers, especially workers in rural areas, a distinct identity as members of collective organizations. Notable achievements of unionisation were fixed hours of work, impersonal employer-worker relationship, wage benefits and loosening the traditional linkage of land, labour and credit. The two labour organisations for agricultural labourers operated in Kerala are "*Kerala State Karshaga Thozhilali Union*"(KSKTU) affiliated to Communist Party of India (Marxist) and "*Deshiya Karshaga Thozhilai Federation*"(DKTF) affiliated to Indian National Congress.

According to Krishnaji (1979) the effective implementation of the Kerala Land Reforms Amendment act (1969) was possible due to the organized strength of the left movement. The movement that developed since the abolition of tenancy has three main components.

1. A successful struggle for higher wages.
2. An espousal of the demand for fair prices for farm products, which did not require struggle.
3. Struggle sought for land, which had not been very successful.

Aiyaswamy (1982) remarked that the substantial wages of agricultural labour in Kerala might be attributed to either level of agricultural development or size of its non-agricultural sector. The effective unionization of agricultural labourers and pro-labour attitude of the state governments appeared to have improved the bargaining position of the workers and enabled them to get increased wages.

Nelson (1991) opined that trade unions seem to be effective in raising the wages of their members, but the union wage premiums are probably smaller in developing than in industrial countries. The reason may be that the labour movement is subordinate in many developing economies, where some trade unions were even instrumental in enacting wage freezes during periods of economic adjustment.

According to Datt (1995), in village level labour markets, agricultural wage determination could be viewed as the outcome of tacit collective bargaining between the groups of village employers and labourers. Moreover, the wage employment and profit outcomes of such implicit bargaining critically depend on the relative bargaining power of the employers and labourers.

Chandran *et al.* (1999) viewed that the condition of women agricultural labourers could not be improved unless they were organized. They opined that the organizations of the agricultural labourers would be essential to protect them from the exploitative forces in the rural scene to improve their bargaining power and

also to act as pressure groups of an efficient delivery of the benefits of the development programmes. The authors backed the point with their observation that trade unionism among the agricultural labourers of Kerala strengthed their bargaining power, thereby enabling them to obtain higher wages.

Reddy (1999) pointed out that the majority of labour force in the country was unorganised and was therefore prone to exploitation. He also remarked that the history of labour movement in India dated back to more than a century and that the labour organization and trade unions have all through fought for the welfare of labour. This has created in government of India's enacting various acts and laws aimed at protecting the interests of labour. But according to him, the implementation of these acts and laws in the unorganised sector is far from satisfactory and he attributed the reasons to the little bargaining power of the fragmented labour force and the lack of education, which made them susceptible to exploitation.

Roozendal (2001) was of the opinion that oppression (infringement of basic rights), resistance (from those who perceive unionists as obstructing economic growth) and competition (due to increased globalisation) are recognized as the three major problems facing the trade unions. The latter constituted the core concern of the time, since it was this aspect, which was shaping the labour market, and hence labour politics too. More over, the author assumed that the role of the trade union should be as an interpreter between the state and section of workers. The division of direct and indirect, formal and informal strategies all amounted to the same thing- the trade unions as petitioners, conciliators and mediators.

Rama (2003) revealed that higher minimum wages and stronger trade unions could raise the earnings of those who manage to keep their jobs but reduce labour demand and depress the earnings of those in the informal sector because formal sector workers usually belonged to "middle class" in developing economies, whereas informal sector workers are more likely to be poor.

2.7 LABOUR BANK

The major limitation of rural development in India is that despite a cautious effort made by the planners to promote labour intensive techniques of production the growth of employment has continuously lagged behind the growth of labour force. Even in Kerala, the rural employment profile during the last two decades provides a startling situation. The number of days of employment had a steady decline for the sole agricultural labourers of the state. This high rate of unemployment was coupled with high wage rates, which were higher than anywhere else in the country especially in agriculture sector.

The land reforms promulgated since independence, resulted in the extreme of land fragmentation. Small land holdings and also high production cost made agriculture as a low profit venture for the farmers. On labourers' side, though wages increased over a period of time the gross income of labourers declined as days of employment fell faster than the rise in wage rate. Also due to the decline in the area under paddy, the traditionally trained crop specific labourers switched over to non-farm activities intensified the crises.

There was a paradoxically co-existing situation of peak season labour shortage and general unemployment of labourers. In order to reverse this trend an experimental intervention was made in Kunnathukal panchayat of Thiruvanathapuram district, in the name of '*Thozhil Sena*'.

The panchayat ensured the understanding and cooperation of all its families in the agriculture sector. The unemployed youth of the panchayat was then mobilised into a team of agricultural workers. The problem was identified and analysed by the assembly of voters at the ward (lowest) level. The farmers and labour unions of the panchayat participated in the formation of '*thozhil sena*' and later in fixing wage rate, work hours etc.

The formation of '*thozhil sena*' was in 1998-99 under the People's Planning Programme. Informal help societies took it upon themselves to manage, supervise and monitor the activities. They dealt with the problems between

farmers and labourers and supervised a resource centre at the ward level, providing seeds, fertilizers, tools etc. The *Kerala Sastra Sahitya Parishad* and the faculty of agricultural university gave the training of '*thozhil sena*' members in operating farm machinery like tractors and threshers. The state government through the panchayat financed the project. Later in 1999-2000 this project of labour corpse namely '*thozhil sena*' was subsequently transformed into labour bank with the following objectives of:

To arrest the declining trend in the area under paddy cultivation, to increase the employment opportunity of local labourers, making labour available to the needy farmers on credit in the form of labour loans, taking up cultivation of fallow land and lease-in land collectively on crop sharing basis and reducing the cost of cultivation by partial mechanization of farming operations.

Informal farm help societies took it upon themselves to manage, supervise and monitor the activities of labour bank. They dealt with problems between farmers and labourers and supervised a resource centre at the ward level, providing seeds, fertilisers, tools etc. Initially the labour bank had 125 members and the wage rate charged by the bank was Rs.115 per day as against the market rate of Rs.125.

Nair (2004) defined labourforce of a nation at any point of time as the manpower available for productive work.

According to Nath (2002) '*thozhil sena*' is a body of different categories of labourers organized to solve the labour shortage problem. The members are given training to perform various farming operations. There is no need for the farmers to supervise the farming operations and the problem of periodical rise in wages does not arise. The thrust of '*thozhil sena*' lies in improving the welfare of labourers.

Nair and Krishna Kumar (2004) stated that the two exogenous factors that may lead to the failures of the labour bank project are: one is the probability of

vacuum created by the transfer of agricultural officers during the initialising of programme.

Placid and Dev (2004) remarked on the labour bank project that generation of massive support of the people in general and labour force members in particular, requires removal of prejudices and division among the various sections of the population.

2.8 TIME UTILIZATION PATTERN OF LABOURERS

Time utilization pattern of rural work force indicates the regular way of doing home and farm activities by a farm labour in a day-to-day life. Daily time use analysis will provide information on time spent by the villagers on different activities to know who spends how much time on what activity, so that they could be borne in mind by social scientists while developing extension, training research and teaching programmes.

Kapur (1988) has reported that the time spent by the rural women on different activities may vary according to the enterprises taken up and other socio-cultural situations.

Prameelamma (1990) reported that education, farm size, material possession, income, extension participation and mass media participation of farmwomen had inverse relationship with the time spent on farm. .

Saha and Kanchan (1991) reported that real women spent maximum time for domestic work due to lack of proper fuel supply and cooking facilities and also due to lack of modern living facilities.

Sheela and Katteppa (1999) reported that marginal farm women spent more time on farm activities followed by small and large farm women and they also added that the factors which contributed in variation in time utilization of farm women were education, material possession, extension contact, social participation, age, family size etc.

Sujatha and Nanjaiyan (1999) reported that majority of farm women worked more than eight hours during peak season and the reason was that most of

the activities on farming, animal husbandry, poultry, fodder crops, sericulture and mushroom cultivation were carried by themselves.

2.9 EMPLOYMENT PATTERN OF AGRICULTURAL LABOURERS

The traditional farming system, under which farm labour used to be supplied by attached labour house holds, broke down; the cultivators now has to go in search of casual labour for each farming operations. It is paradoxical that while cultivators experience shortage of farm hands, large scale unemployment and under employment exists in rural areas.

Gulathi (1984) reported that in Kerala, paddy cultivation operations are so designed that the sexes have particular roles to perform and the scheduled caste women are excluded even from certain operations generally done by females. She also reported that for any women agricultural labourer, the maximum number of days she can expect to get work in one transplanting season hardly ever exceeds 21 days. A woman agricultural labourer will get 3-5 days of work to do weeding in one season.

Devi (1994) stated that female agricultural labourers were engaged in agricultural labour for 104 days and in non-agricultural labour for 37 days. During the months from May to October, there was relatively more employment in the case of both male and female labourers.

According to Eapen (1994) the accelerated shift towards the cash crops associated with the commercialization process in agricultural sector resulted in reduced employment opportunities for women.

According to Vaidyanathan (1994) the adoption of green revolution technologies did not enhance the employment opportunities in the same proportion as the output, though the dependence on wage labour was increased.

Mahesh (1999) revealed that in the present pattern where paddy cultivation is dwindling, the demand for female labour has diminished considerably. Mainly male workers attend to the agricultural operations in the converted lands and

gardens. The change in crop pattern thus lowered the employment opportunities of women.

Meenakshi and Kumar (2000) reported that in the mode of present employment, the proportion of persons employed in agricultural sector in male headed and female-headed categories are 4 percent and 39 percent respectively. Interestingly, the proportion of persons engaged in construction is more in case of female-headed families.

According to Kalamani (2001) a person is said to be employed if he or she is gainfully occupied for a period of 300 days during the reference period.

2.10 WAGE STRUCTURE

Agricultural labour market is segmented by skills, tasks, gender and in some cases by locations. The farmers are unorganized whereas the labourers are organized either formally or informally. In such a situation, wages are determined largely by bargaining.

The weak bargaining power of female labourers is an important factor which contributed for the gender wage gap.

Nayar (1985) pointed out that wage rates differed not only from place to place but with different workers under the same landlord.

Bardhan (1980) observed that the wage rate varied within the sex of labourers in agriculture with female labourers usually getting a lower rate.

Mehta (1980) observed that wage rates varied with respect to agricultural operations.

Natrajan (1982) revealed that rural labour relations became tense throughout Kerala in seventies. In the face of increasing wage cost without a commensurate increase in labour productivity, farmers resorted to a strategy of crop substitution in favour of low-labour-absorbing crops.

Balaraman (1985) revealed that on an average, the wages paid to female worker is roughly two-third, to three-fourth of the wages paid to male labourer.

Hemalatha and Reddy (2003) opined that the wages for agricultural labour have been raising which are not proportionate to price for agricultural produce, which has been stagnant for the past 10 years.

2.11 EXTENT OF LABOUR PARTICIPATION

Participation in any activity could be interpreted as any action ranging from mere association or passive physical attendance. For the purpose of this study participation is referred as the term, which denotes active involvement in performing various agricultural operations in rice based farming system in receipt of wages either as cash, kind or both. However the researcher has gone by the words of the respondents in assessing their participation level.

Singh and Sharma (1991) observed that in Uttar Pradesh the highest level of participation of female was in the case of storage while for male it was in case of land preparation.

Sudharani and Raju (1991) reported that the participation of women in agricultural operations was more than the males in paddy based cropping system. It was also found that weeding, harvesting transplanting, nursery raising and fertilizer application were the job traditionally done by farm women in paddy based cropping system in the order of importance.

Varma and Sinha (1991) revealed that ploughing, puddling, spadework during irrigation and pesticide dusting were solely undertaken by men and 100% of women labour was engaged in transplanting of paddy. Both men and women did weeding and harvesting. 93.5% of women and 15% of men performed carrying load heap. The other operation like sowing behind the plough was performed by 72.5% of men and only 27.5% by women.

Gautam and Meenakshi (1992) indicated that in Himachalpradesh within agricultural labour force the proportion of women was compared to men and their contribution in agriculture or farm activities was also greater.

Anitha *et.al* (1993) reported that women in general participated in sowing, harvesting and tillage operations.

Vijayalakshmi (1995) reported that majority of the women participated to greater extent in operations like sowing, weeding, harvesting, drying and labour supervision. None of the farmwomen participated in ploughing, irrigation management and caring operations.

Senthamarai (1996) observed that farmwomen had high level of participation in harvesting than other operations. They have medium level of participation in weeding, hoeing and transplanting. Average level of participation was found in preparation of nursery, controlling pest attack, fertilizer application and spraying insecticides. The farmwomen had low level of participation in sowing and supervision.

2.12 ATTITUDE OF FEMALE AND MALE AGRICULTURAL LABOURERS TOWARDS IMPROVED FARM PRACTICES

There has been a progressive increase in the number of improved farming practices in agriculture, which includes usage of farm machineries, chemical fertilizers crop protectants and organic nutrients. Hence it is important to know the mind set of agricultural labourers who actually handle these practices.

Thrustone (1946) defined attitude as the degree of positive or negative affect associated with some psychological object towards which people can differ in varying degrees.

Kuppuswamy (1984) stated that attitudes are learned in the course of life experience, which make the individual behave in characteristic ways towards persons, objects or issues to which they get related.

Seema (1986) reported that role perception and performance of women were not significantly related with attitude towards farming.

Shilaja (1990) found that large, small and marginal farmwomen did not differ significantly among themselves with regard to attitude towards mixed farming.

Fathimabi (1993) observed that most of the agricultural labourers had favourable attitude towards welfare schemes for agricultural labourers implemented by the Government of Kerala.

Alex (1994) revealed significant and positive association between attitude of both male and female labourers with their role performance.

According to Rajendralal (1997) any development programme aimed at the welfare of the people calls for maximum peoples participation, to achieve this participation the beneficiaries should have a positive attitude towards the development programmes.

According to Nagabhushanam and Nanjaiyan (1998) reported that education, innovativeness and decision-making pattern of farmwomen had strong influence on the attitude development.

Kumar (1999) observed that about 53 percent of farmers had unfavourable attitude towards rice cultivation.

Suthan (2003) reported that 60 percent of the farmers had low attitude towards scientific agricultural practices in vegetable cultivation.

2.13 CONSTRAINTS EXPERIENCED BY THE AGRICULTURAL LABOURERS: A GENDER PERSPECTIVE

In the changed market oriented farming system with the dominance of cash crops, the pattern of labour demand has altered. The need for female labourers has diminished considerably and male workers are situationaly forced for an occupational shift either in converted rice fields and garden lands or to other non-farm sector.

Sherwani (1983) opined that one of the most common problems faced by women was the dual role she had to play at the domestic front and work floor.

Pilliar (1985) revealed that lack of intensive extension service, inadequate supply of inputs, lack of knowledge and lack of credit facility are the constraints experienced by the weaker sections.

Kannan and Pushpangadan (1990) reported that the agricultural sector, which cultivated seasonal crops, stagnated since the mid'seventies to the mid'eighties thereby imposing an additional constraint on the enhancement of employment in the economy as a whole.

Preetha (1997) reported that consumption of large amount of time and labour is a major constraint in using *chakram* to dewater the rice fields.

Pillai (2004) identified lack of skilled labourers for operating machines as one of the important constraint faced by the farmers of Kuttanad in the rice based farming system.

Cheriyan (2004) identified insignificant new investment, large scale migration of labour to places outside Kerala and shift of cultivation to a less labour- absorbing pattern as the constraints faced by labour unions in agriculture.

Veerabhadraiah (2004) has identified the major problems of farm women labourers as body ache due to manual weeding, backache due to transplanting, physical strain due to seed bed preparation, cough and nasal infections due to post harvest operations, head ache due to head load transportation, hardness in hand and feet due to working in the wet field and the like.

Methodology

3. METHODOLOGY

This chapter deals with the research methods and procedures used in the study and are presented under the following subheadings.

3.1 Locale of the study

3.2 Selection of respondents

3.3 Selection, operationalisation and measurement of variables

3.4 Techniques of data collection

3.5 Statistical methods and tools.

3.6 Categorisation of respondents

3.1 LOCALE OF THE STUDY

The study was conducted at Kunnathukal panchayat and Karode panchayat in Thiruvanathapuram district. Kunnathukal panchayat was purposively selected, as the experimental intervention of 'Thozhil Sena' was made in this panchayat. Karode panchayat was randomly selected among the list of panchayats having adequate rice cultivation in the district.

3.2 SELECTION OF RESPONDENTS

A list of agricultural labourers in the two selected panchayats was prepared. From each panchayat 40 male and 40 female labourers were selected randomly. Thus totally 160 labourers were selected as the respondents of the study.

3.3 SELECTION, OPERATIONALISATION AND MEASUREMENT OF VARIABLES

Detailed review of literature and discussions with experts and scientists in agricultural extension were made use in selecting the variables that could possibly influence the dependent variables. Moreover a pilot study conducted by the researcher justified the relevance of the selected variables. Judge's rating was relied upon for the final selection of independent variables.

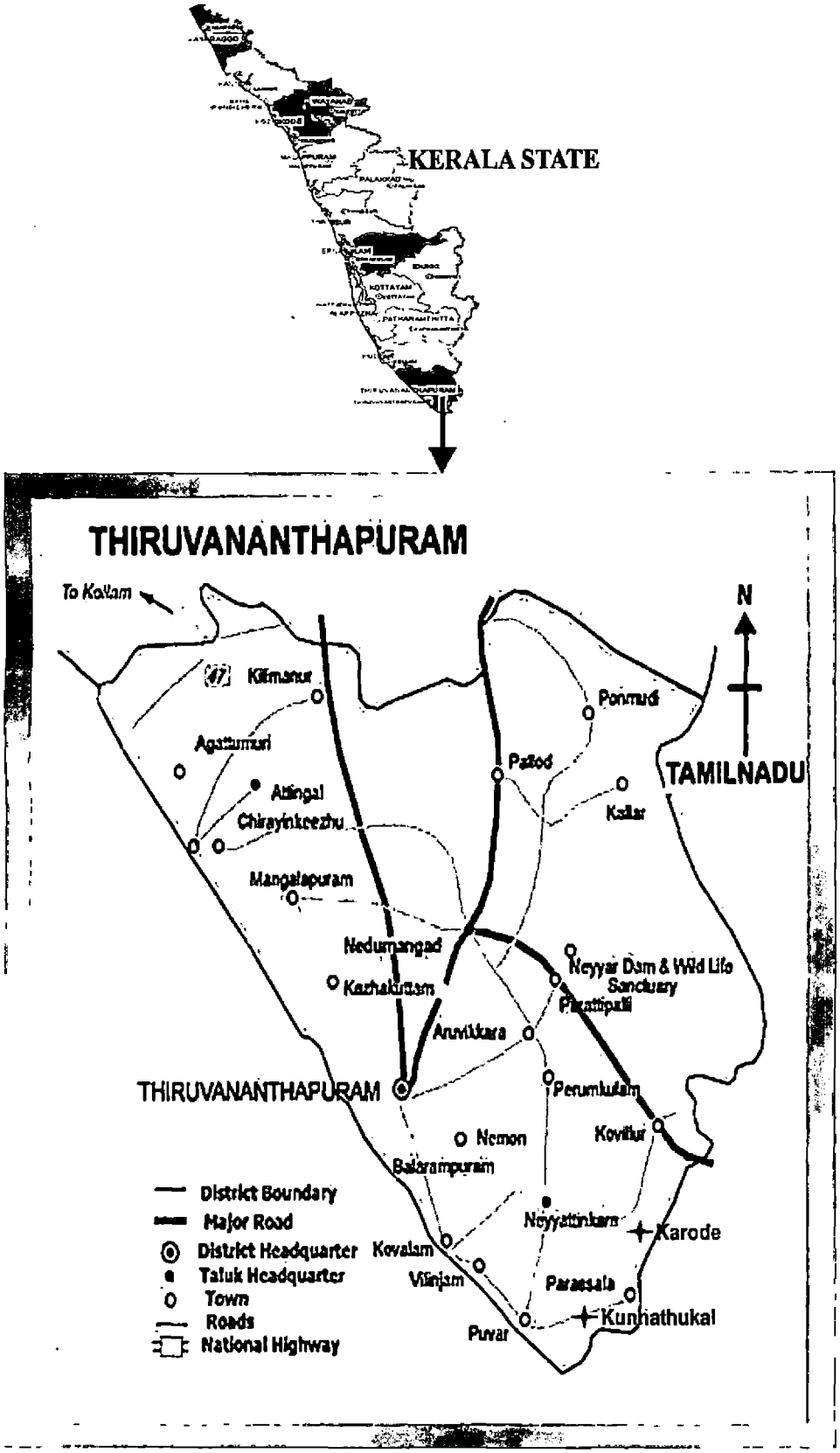


Fig. 1. Map showing the locale of the study

Table 1. Summary of variables and their measurement procedures

Independent Variables	Measurement procedure
Age	Chronological age
Caste	Census report (2001)
Family size	Total number of family members
Family educational status	Scoring procedure used by Ray (1967)
Occupation	Scoring procedure used by Devi (1994)
Land holding	Scoring procedure used by Sasankan (2004))
Annual income	Scoring procedure used by Nath (2002)
Experience in agricultural labour	Scoring procedure used by Sasankan (2004)
Mass media exposure	Scoring procedure by Pradeepkumar (1993)
Economic motivation	Scoring procedure by Supe (1969)
Contact with extension agency	Scoring procedure by Hemalatha (1997)
Political participation	Scoring procedure developed for the study
Labour union participation	Scoring procedure developed for the study
Work commitment	Scoring procedure developed for the study
Time utilization pattern	Scoring procedure by Sujatha and Nanjayan (1999)
Influence of labour organisations on agricultural labourers	Scoring procedure developed for the study
Employment pattern of agricultural labourers	Scoring procedure used by Shanthy (1996)
Wage structure of agricultural labourers	Scoring procedure used by Shanthy (1996)
Gender roles in rice based farming system	Scoring procedure used by Shilaja (1990)
Dependent variables	**Measurement procedure**
Extent of labour participation	Scoring procedure used by Thomas (1998)
Attitude of female and male agricultural labourers towards improved farm practices	Scoring procedure used by Chandran (2000)

The lists of variables selected along with the methods used to measure them are given in Table 1.

3.3.1 *Operationalisation and Measurement of variables*

Age

Age refers to the number of calendar years completed by the respondents at the time of interview. It was measured by directly asking them the number of years one had completed at the time of enquiry.

Depending upon the age of the individual they were grouped into three categories namely, young (upto 35), middle (36-50) and old age (above 50).

Caste

The categorization followed in the Census Report (2001) was followed .All in the respondents in the sample were classified into following categories.

1. Forward castes -*Nairs*, Brahmins & Christians and others if any.
2. Backward castes -*Ezhavas*, Muslims & *Nadars* and others if any.
3. Scheduled castes - *Parayas, Pulayas, Thandars, Kuravas* and others if any.

Though it has been proclaimed that caste segmentation is not prevalent, still in reality caste hierarchy is disguisedly pronounced in the social system. Hence to know the correlation of the caste hierarchy in social system and the extent of its involvement in agricultural labour, forward caste labourers were given a score of three, backward caste a score of two and schedule caste a score of one.

Family educational status

Family educational status was operationalised as the extent of formal or informal learning possessed by the family members of the respondents who were above 18 years old at the time of interview. This was measured using the scale adopted by Ray (1967) with slight modifications. The scoring procedure was as follows:

Sl. No	Level of education	Score
1	Illiterate	1
2	Primary	2
3	Secondary	3
4	Graduate	4
5	Post graduate	5

The family educational score was calculated as following:

$$\text{Family educational score} = \frac{\text{Total score of the members of the family}}{\text{Total number of members in the family}}$$

Family size

Family size was measured by taking into consideration the specific number of members in the family of the respondent living together .The respondents were asked directly that how many members were in their family.

Accordingly they were classified as small (up to three members), medium (four to five members) and large (above five members) families.

Occupation

Occupation was operationalised as the primary activity in which the respondent is engaged for the livelihood. The scoring procedure adopted by Devi (1994) was used in this study. The scoring pattern was as follows:

Sl. No	Category	Score
1	Agriculture labour as the sole occupation	3
2	Agriculture labour as the main occupation with some other as subsidiary	2
3	Some other as the main occupation and agriculture as the subsidiary	1

Annual income

Annual income was operationalised as the total income of the respondents obtained from both agricultural and other subsidiary occupation for a period of one year.

This was measured directly by asking the respondents to indicate their total income both from main and subsidiary occupation for last one year. The score of an individual respondent on this variable was obtained by the scoring pattern adopted by Nath (2002).

Sl.No	Category (Rupees)	Score
1.	Upto 2000	1
2.	2001 - 5000	2
3.	5000 - 10000	3
4.	10000 - 20000	4
5.	Above 20000	5

Land holding

Land holding was operationalised as the total land area cultivated by respondent, which includes both owned and leased in. The scoring pattern adopted by Sasankan (2004) was used to measure this variable.

Sl.No	Size of holding (in acres)	Score
1	Nil	1
2	< 1	2
3	1 – 2	3
4	2 – 3	4
5	> 3	5

Experience in agricultural labour

Experience in agricultural labour was operationalised as the total number of years the respondent had been engaged in doing agricultural labour as occupation. This was measured directly by asking the respondents to indicate the number of years they had been engaged in agriculture as occupation.

The score of an individual respondent on this variable was obtained by the scoring pattern adopted by Sasankan (2004).

Sl.No	Experience	Score
1.	Upto 5 years	1
2.	6 to 10 years	2
3.	11 to 25 years	3
4.	Above 25 years	4

Mass media exposure

Mass media exposure refers to the degree to which an individual has access to mass media information sources for obtaining agricultural information. This was measured by using the scoring pattern adopted by Pradeepkumar (1993) with slight modification.

Sl.No	Media	Frequencies		
		Regularly (2)	Occasionally (1)	Never (0)
1	Radio			
2	Television			
3	Newspaper			
4	Farm magazines			
5	Bulletins / Leaflets			
6	Books			
7	Internet			

The mass media exposure was obtained by adding up all the scores for different medias. The possible score ranges from 0 to 14.

Contact with extension agency

Operationalised as the frequency with which an agricultural labourer comes in contact with an extension agency in a specific period of time. The scale adopted by Hemalatha (1997) had been used .

Sl. No	Personnel	Frequencies			
		Once in a week (3)	Once in a month (2)	Occasionally (1)	Never (0)
1	Agricultural assistant				
2	Agricultural Officer				
3	Agricultural scientist				
4	N.G.O's (Specify)				
5	Others (Specify)				

The contact with extension agency was calculated by adding up all the scores of frequency in which the respondent comes in contact with the various extension personnel. The possible score ranges from 0 to 15.

Political participation:

Political participation was operationalised as the extent of involvement and the frequency of participation in various activities of the political organization. This score of an individual respondent on this variable was obtained as follows.

S No	Items	Weights
1	Not at all interested in politics	1
2	Sympathizer of political organization	2
3	Membership in political organization	3
4	Office bearer in political organization	4

With regard to the participation in the activities of the political organization the scoring pattern followed was,

Never attending - 1

Occasionally attending - 2

Regularly attending - 3

The final score of the respondent was computed by summing up the nature of participation score and frequency of participation score. The possible score ranges from 2 to 7.

Labour union participation

Labour union participation was operationalised as the degree of involvement of the respondent from mere membership to the possesment of organizational positions and his/her frequency of participation in the activities of labour union. This score of an individual respondent on this variable was obtained as follows.

S No	Items	Weights
1	No membership in labour union	1
2	Mere membership only in labour union	2
3	Office bearer in labour union	3

Regarding the frequency of participation in the activities of the labour union the scoring pattern followed was,

Never attending - 1

Occasionally attending - 2

Regularly attending - 3

The final score of the respondent was computed by summing up the nature of participation score and frequency of participation score. The possible score ranges from 2 to 6.

Economic motivation

Refers to the extent to which a person is oriented towards profit maximization and relative value he places on monetary gains.

The scale adopted by Supe (1969) was used in this study. The scales consist of 7 statements. Each statement was provided with five-point response categories namely 'strongly agree', 'agree', 'undecided', 'disagree' and 'strongly disagree' with scores of 5,4, 3, 2 and 1 for positive statements and 1,2,3,4and 5 for negative statements. The score obtained on each statement was added up to get the total score of a respondent on this variable. The possible score ranges from 7 to 35.

Work commitment

Refers to the degree, which the respondent feels committed in the work performed so as to increase the agricultural production of the employer farmer. This was measured using an arbitrary scale developed for this study. The respondent was asked how much responsibility he/she felt in increasing agricultural production of the employer-farmer. The response was collected on a four-point continuum varying from very much responsible to not responsible.
The scoring pattern was as follows:

Response	Score
Very much committed	4
Committed	3
Undecided	2
Not committed	1

Time Utilization Pattern

Refers to the time spent by the respondent for various activities in a day to meet all the duties and responsibilities. The scale adopted by Sujatha and Nanjayan (1999) was used in this study. The various activities performed by an agricultural labourer in a day were identified and grouped. The respondents were asked to indicate the average time spent per activity. From the response then the corresponding percentage was computed.

Influence of labour organizations on agricultural labourers

Refers to the degree to which the attitude and activities of the respondents are affected or modified by being a member of an agricultural labour union. In this study an arbitrary scale was developed to measure this variable.

The scale consists of 10 statements, which was prepared on the basis of review of literature and discussion with trade union activisits, agricultural labourers and social scientists. The respondents were asked to indicate their response in a three point continuum viz., strongly agree, undecided and strongly disagree. Scores of

3, 2 and 1 were assigned respectively for positive statements and 1, 2 and 3 for negative statements.

The possible score ranges from 10 to 30.

Gender roles in rice based farming system

Operationalised as the set of behavior pattern consisting of duties, activities and privileges associated with the female and male agricultural labourers employed by the farmers in rice based farming system.

The scale adopted by Shilaja (1990) was used in this study with slight modification.

An item pool of roles, which a labourer can perform in rice based farming system, was prepared by review of literature and by the discussion with experts. The role items identified were given to the respondent and the responses were collected in a three-point continuum namely most often, sometimes and never, carrying a weightage of 3, 2 and 1 respectively. Role performance score of an individual respondent is obtained by adding the weightage on his/her responses over all the items. To know which role the respondents, performed most frequently, frequency and percentage of the respondents performing each role most often were worked out. The roles were then ranked according to the frequency and the percentage.

Employment pattern of female and male agricultural labourers

Operationalised as the number of labour days of work available in agricultural and nonagricultural sectors for a year. According to Shanthy (1996) there are two basic approaches for measuring the workforce, which is based on the duration of reference period namely the gainful worker approach and labour force approach. The gainful worker approach has a broad reference period and stresses the usual activity .The labour force approach has a more limited reference period, considering those who were working during a reference day or a week prior to the survey. Of the two the gainful worker approach would better enumerate the employment pattern of agricultural labourers since it would catch more seasonal

and sporadic work. Hence gainful worker approach was employed in this study to measure the employment pattern of female and male agricultural labourers.

The measurement procedure adopted by Shanthy (1996) was followed.

The respondents were asked to indicate the agricultural and non-agricultural activities that they perform in each month, the number of labour days obtained per activity and the average time spent per operation. The month wise employment pattern was then analysed individually for both agriculture and non-agriculture activities.

Wage structure of female and male agricultural labourers

Operationalised as the remuneration provided in return for the quantum of work in terms of cash, kind or share. The measurement procedure adopted by Shanthy (1996) was followed.

In the present study the month wise employment pattern in both agricultural and non-agricultural activities were collected from the respondents. Apart from the details of agricultural and non agricultural activities, which they perform in each month, the respondents were also asked to indicate the number of labour days of performance for each activity .The corresponding wage which they receive for each activity was also asked to furnish. The wage structure was then analysed individually for both agriculture and non-agriculture activities.

Extent of labour participation

Refers to the extent of actual involvement, both mental and physical, of female and male agricultural labourers in the rice based farming system.

The measuring procedure adopted by Thomas (1998) is followed in this study.

In the present study the major areas where the labourers in rice based farming system are expected to get involved was prepared by review of literature and by discussion with experts. The respondents were asked to indicate in a three-point continuum, how often they involve in these activities. The scoring pattern was as follows.

Response Category	Score
Most often	3
Sometimes	2
Never	1

The score of a single respondent regarding this variable was calculated by summing up the score over all the items. To have an idea about the extent of labour participation the percentage of respondents participating in each activity and their frequency of participation was worked out.

Attitude of female and male agricultural labourers towards improved farm practices

The term attitude refers to the degree of positive or negative affect towards a psychological object.

In the present study the scale developed by Chandran (2000), was used to measure the attitude of female and male agricultural labourers towards improved farm practices. The scale consists of 14 statements of which six statements were positive and eight statements were negative. For each statement the responses were obtained in a five point continuum viz., strongly agree, undecided, strongly disagree. The assigned scores were 5, 4, 3, 2 and 1 for positive statements and 1, 2 and 3, 4and 5 for negative statements respectively. The score obtained on each statement was added to get the total score of a respondent regarding this variable. The possible score ranges from 14 to 70.

Constraints experienced by agricultural labourers in rice based farming system

In order to elicit the constraints faced by the agricultural labourer in rice based farming system, a free-hand writing of the constraints as perceived by the respondents were allowed. The frequency of constraints was worked out and was ranked accordingly.

3.4 TECHNIQUES OF DATA COLLECTION

Based on the methodology described above, an interview schedule was prepared for the purpose of data collection. The pretesting of interview schedule was done before conducting the actual survey. The interview schedule duly revised is given in Appendix II. The researcher individually contacted the respondents.

3.5 STATISTICAL METHODS USED IN THE STUDY

The statistical tools were used to analyse the collected data.

3.5.1 Mean

The mean score was obtained by statistical analysis to know the mean value of both female and male respondents regarding each variable.

3.5.2 Percentage Analysis

Percentage distribution was worked out by dividing the frequency in each category with the total number of respondents and multiplying by 100. It was done to make simple comparison whenever necessary.

3.5.3 Correlation Analysis

Correlation coefficient is a measure of the association between two variables. The correlation coefficient was worked out to measure the relationship between the dependent and independent variables.

3.6 CATEGORISATION OF RESPONDENTS

The mid value of score range of each variable was worked out. The respondents were then categorized into low and high groups based on the mid value of score range.

Low group $\leq$ mid value of the score range

High group $>$ mid value of the score range

Results and Discussion

4. RESULTS AND DISCUSSION

This chapter deals with the results obtained in the study and the discussions on the results. Keeping the objectives in view, the findings as well as the discussions based on gender are presented under the following titles.

4.1 Profile characteristics of agricultural labourers

4.2 Influence of labour organisations

4.3 Time utilization pattern of agricultural labourers

4.4 Attitude of agricultural labourers towards improved farm practices

4.5 Gender roles of labour in rice based farming system

4.6 Extent of labour participation in rice based farming system

4.7 Employment pattern of agricultural labourers

4.8 Wage structure of agriculture labourers

4.9 Relation between selected independent variables and dependent variables

4.10 Constraints experienced by female and male agricultural labourers employed in rice based farming system

4.11 Suggestions perceived to improve the standard of living of agricultural labourers

4.1 PROFILE CHARACTERISTICS OF AGRICULTURAL LABOUR

This section reveals the distribution of female and male respondents, with respect to various profile characters and the discussions relevant to those characters. The variables studied under profile characteristics were age, caste, family size, family educational status, occupation, land holdings, annual income, experience in agricultural labour, mass media exposure, economic motivation, contact with extension agency, political participation, labour union participation and work commitment.

4.1.1 Age

Table 2. Distribution of the respondents with respect to age

Category	Female (n = 80)		Male (n = 80)	
	Frequency	Percentage	Frequency	Percentage
Young (Up to 35 years)	4	5	6	8
Middle (36-50 years)	29	36	22	28
Old (Above 50 years)	47	59	52	65
Total	80	100	80	100

From Table 2, it is understood that among female respondents majority of respondents (59 percent) belonged to the old age group, 36 percent of the respondents belonged to the middle age group and only five percent were in the young age category. In the case of male respondents also it was noticed that majority of respondents (65 percent) were in the old age category, 28 percent of the respondents in the middle age group and eight percent of respondents in young age category.

In both gender majority of the respondents were of elderly age group. This might be because of fall in rate of entry of young workers into the agricultural sector. Even the very few young people who enter agricultural workforce try to shift to non-agricultural operations in course of time. Spread of facilities for school education has delayed entry of young persons to the labour force. The educated youth are hesitant to take up manual work even if they do not find any other gainful occupation. This elderly age composition of agricultural labourers, with no new entrants is an indication for extinction of such a class in the near future. In recent years employers in non-agricultural sector are widely dependent

on migrant labourers from parts of West Bengal, Tamil Nadu, Orissa and Uttar Pradesh. Perhaps, very soon this same condition may reflect among the agricultural labourers of Kerala.

4.1.2 Caste

Table 3. Distribution of the respondents with respect to caste

Category	Female (n = 80)		Male (n = 80)	
	Frequency	Percentage	Frequency	Percentage
Forward caste	0	0	3	4
Backward caste	10	13	33	41
SC/ST	70	88	44	55
Total	80	100	80	100

Table 3 reveals that among female respondents 88 percent belonged to SC/ST group which includes *pallars*, *parayas*, *thandars* and *pulayar* castes, 13 percent belonged to the backward castes namely *nadar* caste. Whereas among male respondents 55 percent belonged to SC/ST group namely *pallars, parayas, thandars and pulayar* castes, 41 percent belonged to backward caste, which includes *nadar* and *ezhava* castes, four percent belonged to forward caste namely *nairs*.

In the traditional village context, caste system played a vital role in the agrarian sector. In earlier days upper caste households owned the agrarian land and lower caste people performed the so- called 'muddy' operations in field. This study confirms that today, even after half century of independence agricultural works remains the main stay of occupation for Scheduled Caste people. Thus it is evident that in reality the caste segmentation of labour still prevails despite the affirmative actions of Government policies.

4.1.3 Family size

Table 4. Distribution of the respondents with respect to family size

Category	Female (n = 80)		Male (n = 80)	
	Frequency	Percentage	Frequency	Percentage
Up to 3 members	7	9	10	13
4 – 5 members	39	49	47	59
Above 5 members	34	43	23	29

A cursory view of Table 4 shows that with respect to family size in female respondent category 43 percent belonged to family with more than five members, 49 percent belonged to family with four to five members and only nine percent belonged to nuclear family having up to three members.

Among male respondents 29 percent belonged to family with more than five members, 59 percent belonged to family with four to five members and only 13 percent belonged to nuclear family having up to three members. Most of the respondents in both categories had a family size of four to five members. Various social and economic reasons like the existence of traditional joint family system and also the benefits of reduced expense ratio by living together are the reasons for large family size.

4.1.4 Family Educational Status

Table 5. Distribution of the respondents with respect to family educational status

Mid value	Female (n = 80)			Male (n = 80)		
	Mean	High	Low	Mean	High	Low
3	1.7	10 (13)	70 (88)	1.9	46 (57)	34 (43)

Figures in parentheses indicate percentage

From Table 5 it can be seen that among female respondents 88 percent belonged to low group and 13 percent belonged to high group, whereas in male respondents 43 percent belonged to low group 57 percent belonged to high group. Most of the labourer respondents of the study who were the heads of the families

in both gender were illiterates. This low level of education is an important hindrance for their vertical mobility in social life.

4.1.5 Occupation

Table 6.Distribution of the respondents with respect to occupation

Sl.No	Category	Female (n = 80)		Male (n = 80)	
		Frequency	Percentage	Frequency	Percentage
1	Agriculture labour as the sole occupation	70	87.5	20	25
2	Agriculture labour as the main occupation with some other as subsidiary	10	12.5	60	75
3	Some other as the main occupation and agriculture as the subsidiary	0	0	0	0

Table 6 indicates that 87.5 percent of female respondents performed agriculture labour as their sole occupation, 12.5 percent of female respondents performed agriculture labour as their main occupation with other subsidiary occupation. This includes head load operations in construction sites and road works. Among the male respondents 25 percent performed agriculture labour as the sole occupation, 75 percent performed agriculture labour as a main occupation and some other as subsidiary occupation. None of the respondents in both gender practiced agriculture as a subsidiary occupation. The subsidiary occupations performed by them were construction works, road works and head loads. Apart from work in rice based farming system male workers also attend to the agricultural operations in converted garden lands.

The finding that only 25 percent of male respondents are solely dependent on agricultural labour, whereas 87.5 percent of female respondents had agricultural labour as sole occupation is a matter of concern. Employment opportunities in the agricultural sector are diminishing quite rapidly due to changes in land use and cropping patterns associated with commercialisation of

agriculture. Weeding and transplantation in rice crop was the mainstay of employment for female agricultural labourers. Hence decline in rice area has adversely affected the employment availability of female agricultural labourers. Thus on the one hand, the inability of female agricultural labourers to avail non agricultural employment due to its migration nature enhance their deprivation, on the other hand, high levels of under-employment prevailing in agricultural sector intensifies further their deprivation.

4.1.6 Land Holdings

Table 7. Distribution of the respondents with respect to land holdings

Area (acres)	Female respondents (n=80)		Male respondents (n=80)	
	Frequency	Percentage	Frequency	Percentage
Nil	75	93	70	87
< 1	3	4	2	3
1 – 2	2	3	3	4
2 – 3	0	0	5	6
> 3	0	0	0	0

As seen from Table 7, majority of agricultural labourers doesn't possess farmland. Among male respondents six percent had two to three acres of land, four percent had one to two acres of land, three percent had less than one acre of land for cultivation and 87 percent of respondents doesn't possess any land for cultivation purpose, neither owned nor leased in. In the female respondents category only three percent had one to two acres of land four percent had less than one acre of land, 93 percent of respondents doesn't possess any land for cultivation.

4.1.7 Annual Income

Table 8. Distribution of the respondents with respect to annual income

Annual income (Rupees)	Female (n = 80)		Male (n = 80)	
	Frequency	Percentage	Frequency	Percentage
Upto 2000	9	11	0	0
2001- 5000	42	53	11	14
5001 - 10000	29	36	58	73
10001 - 20000	0	0	9	11
Above 20000	0	0	2	3

It is clear from the Table 8 that in the case of female respondents 11 percent were having annual income only upto Rs.2000/-, 53 percent were in the range of to Rs.2001/- and Rs.5000/-, and 36 percent belonged to the range of Rs.5001/- toRs.10000/-. None of the female respondents had an annual income of more than Rs.10000/-.

Among male respondents 14 percent were having annual income in the range of Rs.2001/- and Rs.5000/-, 73 percent belonged to the range of Rs.5001/- toRs.10000/-, 11 percent were in the range of Rs.10001/- to Rs.20000/- and 3 percent had annual income above Rs.20000/-. None of the male respondents had an annual income of less than Rs.2000/-.

Between male and female, there is a considerable difference in annual income. This is because of the availability of non-farm employment for male labourers and also underemployment within rice based farming system among the female labourers. From the Table 8 it is evident that more than 90 percent of both male and female respondents are in the Below Poverty Line (BPL) category. The average annual income of the respondents inferred from this study is inadequate, when considering the BPL criteria of Government of India, which is projected to be a greater amount.

4.1.8 Experience in Agricultural Labour

Table 9. Distribution of the respondents with respect to experience in agricultural labour

Experience (Years)	Female (n = 80)		Male (n = 80)	
	Frequency	Percentage	Frequency	Percentage
Upto 5	0	0	0	0
6 - 10	4	5	5	6
11 - 25	14	18	24	30
> 25	62	78	51	64

A cursory view of Table 9 indicates that with respect to experience in performing agricultural labour in the case of female respondents five percent had an experience of six to ten years, 18 percent had an experience of 11 to 25 years and the majority of respondents (78 %) had more than 25 years of respondents.

Among males six percent had an experience of six to ten years, 30 percent had an experience of 11 to 25 years and the majority of respondents (64 %) had more than 25 years of respondents.

From Table 9 it is evident none of the respondents had less than five years of experience. This is due to the result of elderly age group of respondents who are working in rice based farming system for years.

4.1.9 Mass Media Utilization

Table 10. Distribution of male respondents with respect to mass media utilization

S No	Media	Frequencies		
		Regularly	Occasionally	Never
1	Radio	11(14)	28(35)	41(51)
2	Television	0	19(24)	61(76)
3	Newspaper	8(10)	14(18)	58(72)
4	Farm magazines	0	0	80(100)
5	Bulletins / Leaflets	0	8(10)	72(90)
6	Books	0	0	80(100)
7	Internet	0	0	80(100)

Figures in parentheses indicate percentage

A perusal of Table 10 shows a clear picture of mass media utilized by male agricultural labourers. Those respondents who were regular users of mass media for farm information were mostly marginal farmers cum labourers. Regarding radio only 14 percent of male respondents regularly listen to farm programmes.

None of the male respondents were regular viewers of farm programmes telecasted. Only 24 percent of respondents were occasional viewers of farm programmes. Only 10 percent of respondents read newspaper regularly to know farm informations. Likewise, only 10 percent of male respondents read leaflets and bulletins to access agricultural information. The source of leaflets and bulletins for agricultural labourers are state agricultural department and input agencies. None of the respondents read either farm magazines or books providing agricultural information. Only very few respondents of young age were at least aware of internet. Obviously none of the respondents were users of internet.

Table 11. Distribution of female respondents with respect to mass media utilization

S No	Media	Frequencies		
		Regularly	Occasionally	Never
1	Radio	4(5)	12(15)	64(80)
2	Television	0	22(27)	58(73)
3	Newspaper	0	8(16)	72(90)
4	Farm magazines	0	0	80(100)
5	Bulletins / Leaflets	0	5(7)	75(93)
6	Books	0	0	80(100)
7	Internet	0	0	80(100)

Figures in parentheses indicate percentage

It could be deciphered from Table 11 that in the case of female labourers five percent were regular listeners of farm broadcasts. Among female respondents

27 percent were occasional viewers of farm telecasts. Only seven percent occasionally read bulletins and leaflets. None of the respondents read farm magazines or any agriculture related books. Internet was also never used by any of the female labourers.

Though most of the respondents possess television and radio at home, they do not watch or listen to any farm programmes, hence their mass media utilization regarding agriculture information was very poor. Most of the landless labourers never access any mass media for farm information. This was because those farm broadcasts and farm programmes telecasted were of no use to the sole agricultural labourers. These landless labourers cannot use the phone-in programmes of television and radio because they don't possess telephones at home. Only very few agricultural labourers buy newspapers daily. Others read newspapers available at teashops and village libraries. Illiteracy of old aged labourers is another cause for the limited usage of print media. Only labourers who have contacts with extension agencies will receive leaflets and bulletins related to agriculture. Agricultural labourers don't have any source to access books related to agriculture.

The inference drawn is that mere possession of mass media devices alone cannot educate the farming community regarding agricultural information. The various forms of message dissemination, clarity of message, costs of accessibility of information, timings of message dissemination etc... are the important factors contributing to the mass media utilization for agricultural information.

4.1.10 Economic Motivation

Table 12. Distribution of the respondents with respect to economic motivation

Mid value	Female (n = 80)			Male (n = 80)		
	Mean	High	Low	Mean	High	Low
21	27.2	71 (89)	9 (11)	28.1	61 (76)	19 (24)

Figures in parentheses indicate percentage

Table 12 indicates that 11 percent of female respondents belonged to low group regarding economic motivation and 89 percent of them belonged to high

group for the same. Among male respondents 24 percent had low level of economic motivation and 76 percent had high level of economic motivation.

4.1.11 Contact with Extension Agency

Table 13. Distribution of the respondents with respect to contact with extension agency

Mid value	Female (n = 80)			Male (n = 80)		
	Mean	High	Low	Mean	High	Low
7.5	0.7	5 (6)	75 (94)	1.4	12 (15)	68 (85)

Figures in parentheses indicate percentage

It could be seen from Table 13 that 94 percent of female respondents belonged to low group regarding contact with extension agency and six percent belonged to high group. Among male respondents 85 percent belonged to low group and 15 percent belonged to high group. Extension agency contact was almost nil for landless labourers. Only those labourers who were also marginal farmers had very limited contact with officials of state agricultural department.

The inadequacy of extension contact may be because of the poor service delivery of state agriculture department. Officals of agriculture department are reported to be more preoccupied with paper works and are unable to provide their necessary service to the agricultural labourers especially the sole agricultural labourers who are landless. The current rural situation also has demanded a change in the role of extension officials that of from mere educators to facilitators. The extension personnel should be trained periodically with basic agricultural system management principles, complete with crop and livestock management. Moreover, the extension officials should enrich the farmers and labourers who are also marginal farmers, regarding the updated information on various crop loans, crop insurance and other beneficiary governmental programmes.

Apart from extension contact of state agriculture department, few respondents were members of an NGO namely NIDS (Neyattinkara Integral

Development Society). Likewise, few respondents were members of '*kudumbashree* programme' of the state government.

4.1.12 Political participation

Table 14. Distribution of the respondents with respect to political orientation

Mid value	Female (n = 80)			Male (n = 80)		
	Mean	High	Low	Mean	High	Low
4.5	0.8	11 (14)	69 (86)	1.4	31 (39)	49 (61)

Figures in parentheses indicate percentage

Table 14 indicates that 86 percent of female respondents had low level of political participation and 11 percent of them had high level of participation. Among male respondents 61 percent belonged to low group and 39 percent belonged to high group. From the table it is clear that female respondents had less political participation than males.

Table 15 reveals the individual partywise political participation of the male and female respondents. From the table it is evident that the respondents belonged to three main political formations namely Left Democratic Front (LDF), United Democratic Front (UDF) and Bharatiya Janata Party (BJP). Among LDF most of the respondents belonged to CPI (M) Communist Party of India (Marxist) CPI(M) and among UDF Indian National Congress party (INC) had majority of members.

58 percent of male respondents were either mere sympathizers or just an ordinary member of LDF whereas 5 percent of male respondents were either active member or office bearer of the same. In case of UDF 24 percent of the respondents were either sympathizers or ordinary members. Regarding BJP 14 percent of respondents were either sympathizers or ordinary members. None of the respondents were either active members or office bearers of UDF and BJP.

26 percent of female respondents were not at all interested in politics.60 percent of respondents were either sympathisers or ordinary members of LDF. 14 percent were either sympathisers or ordinary members of UDF. Unlike male

Table 15. Distribution of respondents with respect to political participation

Gender	Not interested in politics	Name of the political party							
		LDF		UDF		BJP		Others	
		Sympathizer / Ordinary member	Active member / Office bearer	Sympathizer / Ordinary member	Active member / Office bearer	Sympathizer/ Ordinary member	Active member / Office bearer	Sympathizer / Ordinary member	Active member / Office bearer
Male	0	46 (58)	4 (5)	19 (24)	0	11(14)	0	0	0
Female	21 (26)	48 (60)	0	11 (14)	0	0	0	0	0

Figures in parentheses indicate percentage

respondents no female respondents were sympathisers of BJP. None of the female respondents were active members or office bearers of any of the political parties.

4.1.13 Labour union participation

Table 16. Distribution of the respondents with respect to labour union affiliation

Mid value	Female (n = 80)			Male (n = 80)		
	Mean	High	Low	Mean	High	Low
4.5	0.7	13 (16)	67 (84)	4.5	29 (36)	51 (64)

Figures in parentheses indicate percentage

Table 16 indicates that female respondents had lower labour union participation than male respondents. Among female respondents 84 percent belonged to low group and 16 percent belonged to high group. In case of male respondents for the same variable 64 percent belonged to low group and 36 percent belonged to high group.

Table 17.Distribution of the respondents with respect to labour union participation

Gender	Non-members	Kerala state *Karshaka Thozhilai* Union (KSKTU)			Others
		Ordinary members	Active members	Office bearers	
Male	38 (47)	36 (45)	4 (5)	2 (3)	0
Female	59 (74)	19 (23)	2 (3)	0	0

Figures in parentheses indicate percentage

A cursory view of Table 17 indicates that 47 percent of male respondents had no membership in any labour union. Apart from them, the rest of the 53 percent of respondents were the members of Kerala State *Karshaka Thozhilai* Union (KSKTU). None of the male respondents had membership in any other labour union other than KSKTU. Among the 53 percent of respondents who possessed membership in KSKTU, 45 percent were ordinary members, five percent were active members and three percent were office bearers.

. In the case of female respondents 74 percent had no membership in any labour union. None of them had membership in any other labour union other than KSKTU. Only 26 percent of female respondents were members of KSKTU. Among them23 percent were ordinary members and three percent were active members. There were no office bearers in labour union among the female respondents.

The labour union KSKTU was affiliated to the political organization Communist party of India (Marxist). Since most of the respondents were sympathisers of CPI (M) that may be the reason for high membership rate in KSKTU labour union.

The functioning of agricultural labour union is very prominent in other parts of Kerala like Palakkad, Alappuzha, Kottayam and Kasaragode, when compared to the study location. The organisational efforts and the agitational methods of labour unions coupled with progressive legislative measures created radical changes in lives of agricultural labourers. Indeed, the status of the agricultural workers improved significantly and now majority of them own at least a homestead to dwell. This situation is mainly due to the enactment of progressive land reforms during 1960's when poor hutment dwellers in the lands of landlords were given ownership rights of their homesteads. Rising wage rates, ownership status on homesteads and increased level of social awareness of agricultural labourers are witnessed due to the unionisation of agricultural labourers in northern parts of Kerala.

The weak labour union participation in the study area may be because of low rice cultivating area. More the rice cultivating area more will be the permanent agricultural labourers, which will naturally lead to more labour union activities. Another reason, which accounts for poor labour union influence may be the geographical location of study area, in the border of Kerala and Tamilnadu. The nearby Kanyakumari district of Tamilnadu almost has no agricultural labour unions. This phenomenon might have influenced the labourer factions of the study location.

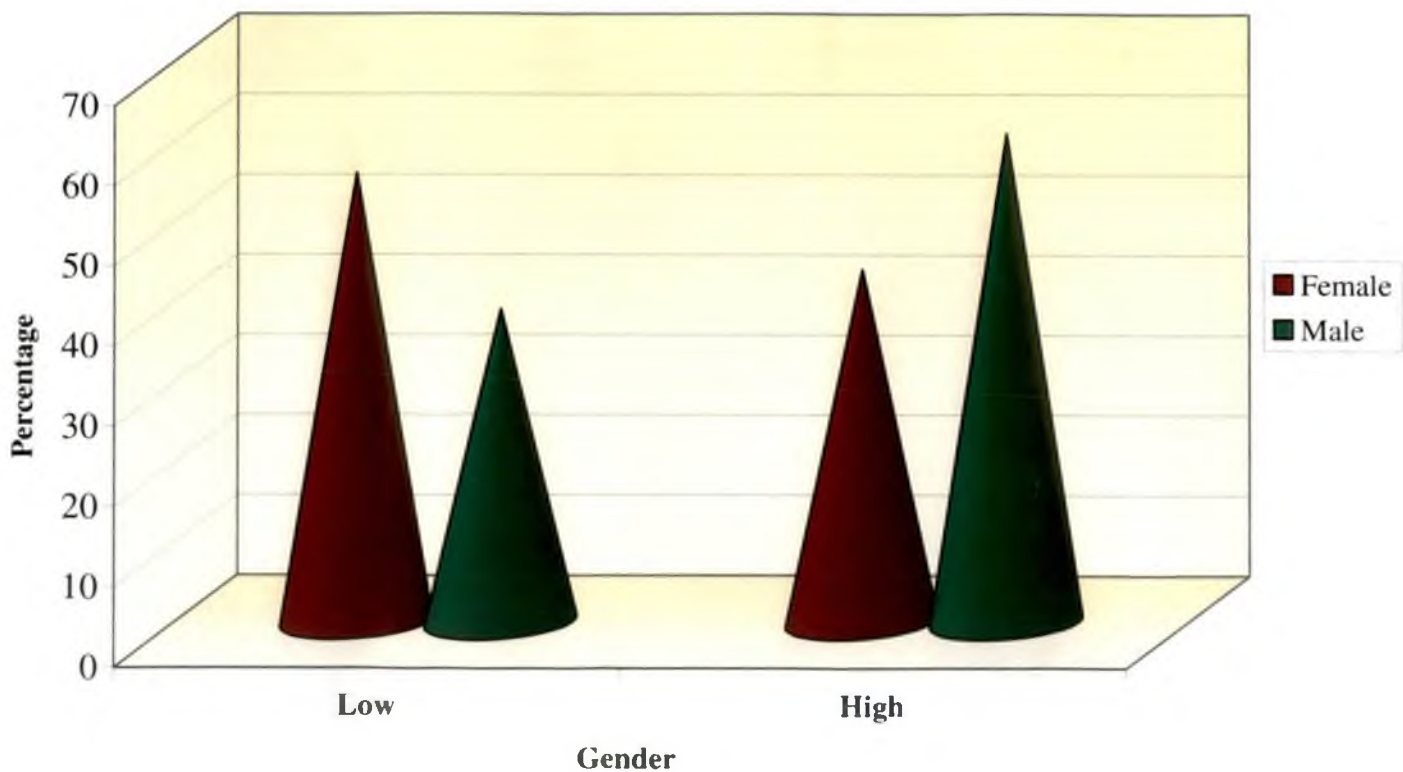


Fig. 2. Influence of labour organisations

4.1.14 Work Commitment

Table 18. Distribution of the respondents with respect to work commitment

Mid value	Female (n = 80)			Male (n = 80)		
	Mean	High	Low	Mean	High	Low
2.5	3.1	67 (84)	13 (16)	2.8	63 (79)	17 (21)

Figures in parentheses indicate percentage

Table 18 indicates that 16 percent of female respondents had low level of work commitment and 84 percent had high level of work commitment. For the same variable among male respondents 21 percent belonged to low group and 79 percent belonged to high group. Higher degree of work commitment will increase the quality of work performed by the agricultural labourers.

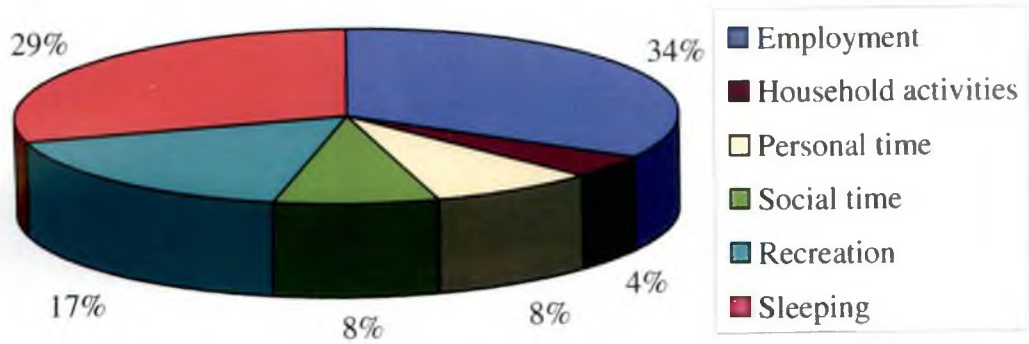
4.2 INFLUENCE OF LABOUR ORGANISATIONS

Table 19. Distribution of the respondents with respect to influence of labour organisation

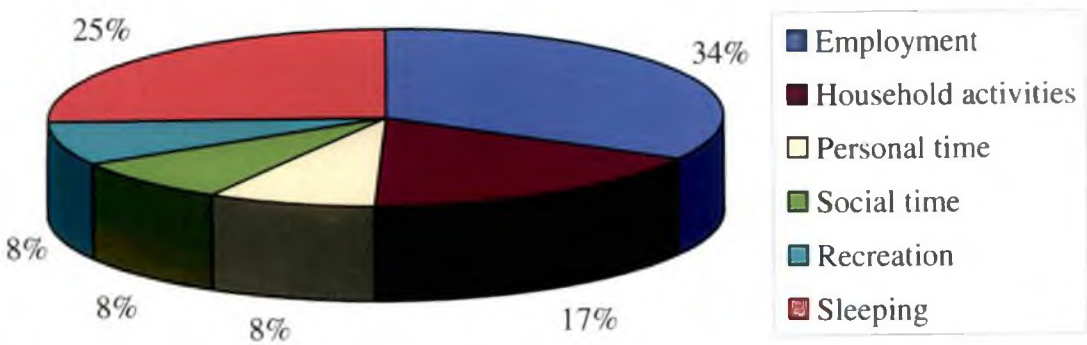
Gender	Mid value	Mean score	Low group		High group	
			Frequency	Percentage	Frequency	Percentage
Female	20	17.6	45	56	35	44
Male		21.5	31	39	49	61

Table 19 and Fig 2 reveals that regarding influence of labour organisation 39 percent of male respondents belonged to low group and 61 percent belonged to high group. For the same variable 56 percent of female respondents belonged to low group and 44 percentage belonged to high group.

Most of the respondents who had membership in labour union reported that they regularly pay monetary contribution towards the welfare fund. Male respondents who had membership in labour union opined that labour union membership had increased their solidarity and also had increased their social participation.



Male labourers



Female labourers

Fig. 3 Time utilization pattern of respondents

Majority of female respondents who had membership have developed some degree of indifference in recent years to the labour union activities. Union functionaries do not inform them about meetings and the issues discussed in such meetings. They did not seem to be enthusiastic to know about the details either. The very few who attend such meetings once in a while were mostly passive participants, listening to the discussions but not speaking their minds on the issues under discussions. Many of them even did not know much about the functions of the labour union for which they regularly paid membership fee and contributions to welfare fund. Anyhow the female respondents also agree that labour union membership provides a sense of security to them.

The respondents who were not members of any labour union believed that labour union membership encourages solidarity among the labourers. They did not agree that non-union members were preferred more by the employer-farmer rather than union members.

4.3 TIME UTILIZATION PATTERN OF AGRICULTURAL LABOURERS

Table 20. Distribution of respondents with respect to time utilization pattern

Sl.No	Activities	Female		Male	
		Average hours spent	Percentage	Average hours spent	Percentage
1	Employment	8	33	8	33
2	Household activities	4	17	1	4
3	Personal time	2	8	2	8
4	Social time	2	8	2	8
5	Recreation	2	8	4	17
6	Sleeping	6	25	7	29

Table 20 and Fig 3 reveals the time utilization pattern of labourer respondents during peak season of employment. With respect to labour hours it can be seen that both male and female respondents spare same amount of time. Female respondents spare four hours for household activities when compared to

males who consume only one hour for that. This is because mostly women look after cooking, cleaning, washing clothes and childcare, whereas men hardly engaged in such activities.

Personal time includes the time taken for biological activities, bathing and grooming time. Regarding personal time both gender consume only two hours. Men and women had two hours of social time on an average. Time spent for social ineractions, listening news in radio and television and social interactions were included under social time category. Social interactions usually happen when male respondents get together in teashops and when they go to market at evening hours. Female respondents don't have the habit of having get-together at teashops; anyhow they also go to market in groups during evenings. Female respondents spare two hours for their recreation, whereas male respondents spare four hours for the same. Watching television and gossiping were the recreation which most of the female respondents enjoyed. Men availed recreation by watching television, playing cards and chitchat. For male respondents time consumed in liquor shops was also incorporated under recreation time. After long hours of work female respondents spare six hours on an average for sleeping whereas male spare seven hours for sleeping.

Time utilization pattern in Table 19 confirms that females involve in more hours of physical activity including labour hours and household activity and takes less time for rest when compared with males who don't play significant role in household activities but spare more time for rest.

It was found that generally agricultural labourers have recreation while they celebrate festivals in religious institutions like temples, churches and mosques of nearby localities. Traditionally these religious festivals are also held during summer i.e., during off- season for the convenience of agricultural labourers.

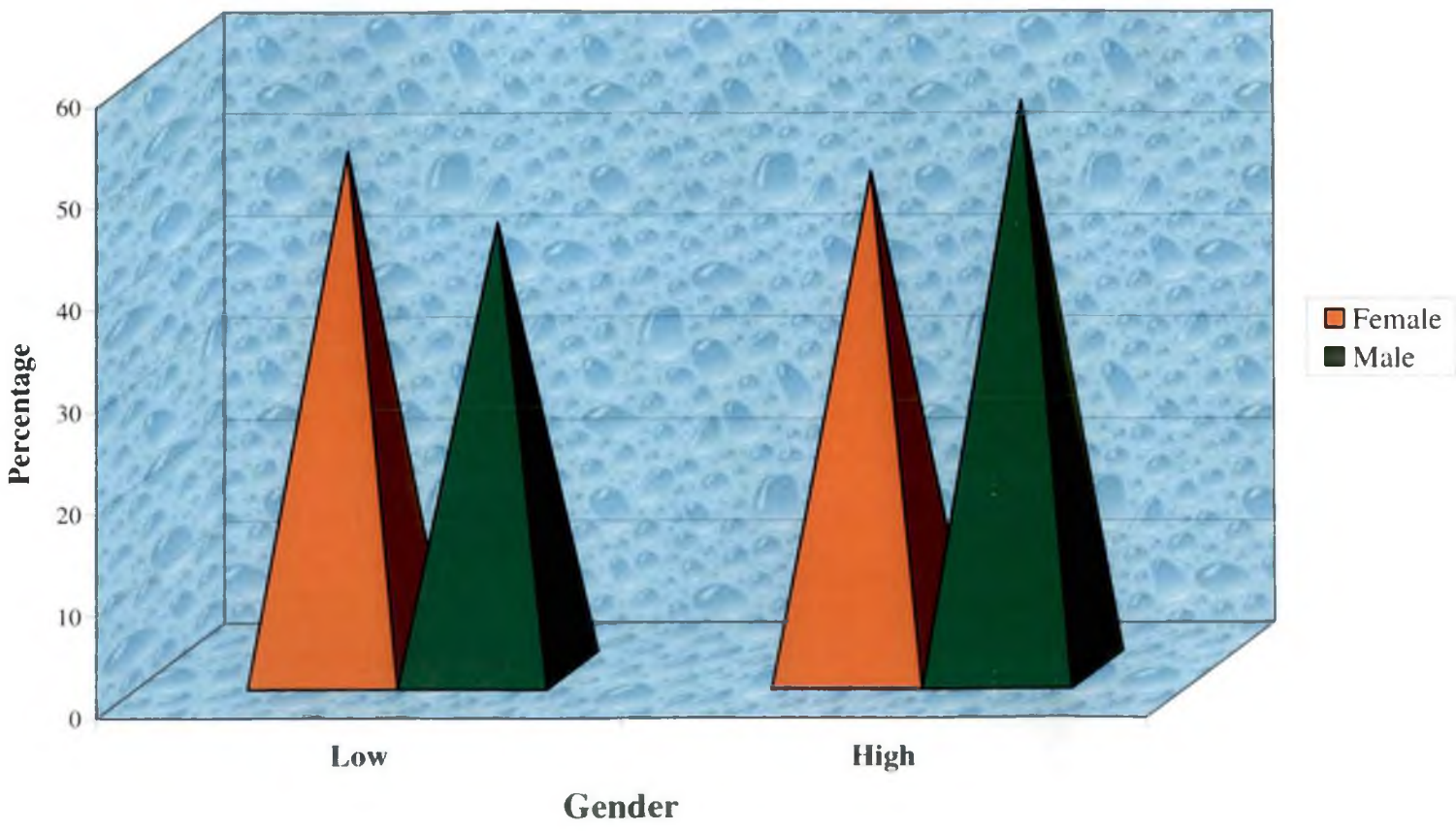


Fig. 4. Attitude towards improved farming practices

4.3 ATTITUDE OF AGRICULTURAL LABOURERS TOWARDS IMPROVED FARM PRACTICES

Table 21. Distribution of respondents with respect to attitude towards improved farm practices

Gender	Mid value	Mean score	Low group		High group	
			Frequency	Percentage	Frequency	Percentage
Female	42	34.3	41	51.3	39	48.8
Male		36.8	35	43.8	45	56.2

Table 21 and Fig 4 reveals that with respect to attitude towards improved farm practices 43.8 percent of male respondents belonged to low group (having low level of favourable attitude) and 56.2 percent belonged to high group (having high level of favourable attitude). Among female respondents 51.3 percent had low level of attitude and 48.8 percent had high level of attitude towards improved farm practices.

A cursory view of Table 21 also reveals that in general female respondents had low level of attitude towards improved farming practices. When compared to male respondents female labourers possessed lesser attitude because they do not handle most of the components of improved farm practices like farm machineries (e.g. harvester and sprayers), crop protection chemicals (e.g. pesticides, fungicides and herbicides) etc.

Anyhow even male respondents hardly had knowledge of farm machineries since the only modern machine used to some extent was the harvester. Though the labourers were aware of bio fertilizers and bio pesticides they developed neither positive nor negative mindset towards that.

Since women play a major role in rice cultivation like transplanting, weeding and harvesting they had a positive attitude towards rice farming, whereas in other crops of rice based farming system like vegetables, banana and pulses where they only play a supportive role like that of weeding and watering, female labourers do not have a positive attitude.

Table 22. Gender roles performed in rice based farming system

Agricultural Operations	Female Labourers		Male Labourers	
	Score	Rank	Score	Rank
Rice (PreHarvest)				
Ploughing	Nil	Nil	44	18
Cleaning field boundaries and levelling	Nil	Nil	149	2
Seed treatment	Nil	Nil	17	23
Nursery sowing	111	8	123	4
Trampling	109	9	125	3
Pulling of seedlings	125	7	105	10
Transporting and spreading of seedlings	125	7	118	7
Transplanting	149	2	11	24
Irrigation	Nil	Nil	Nil	Nil
Weeding	147	3	7	27
Fertilizer application	Nil	Nil	33	20
Plant protection measures	Nil	Nil	22	22
Rice (Harvest)				
Reaping	137	4	160	1
Bundling and transportation	128	6	160	1
Rice (Post harvest)				
Threshing grains	135	5	160	1
Winnowing	152	1	104	11
Storage of grains	152	1	58	17
Heaping and Storage of straw	12	11	82	16
Banana				
Taking pits	Nil	Nil	121	5
Sucker preparation	Nil	Nil	110	9
Sucker transportation	Nil	Nil	94	14
Planting	Nil	Nil	119	6
Organic manure application	Nil	Nil	115	8
Staking	Nil	Nil	121	5
Fertilizer application	Nil	Nil	102	12
Plant protection chemical application	Nil	Nil	Nil	Nil
Harvesting	Nil	Nil	101	13
Transportation	Nil	Nil	92	15
Vegetables				
Land preparation	Nil	Nil	43	19
Sowing / Planting	8	12	27	21
Fertilizer application	Nil	Nil	5	28
Irrigation	8	12	11	24
Weeding	6	14	7	27
Spraying of plant protection chemicals	Nil	Nil	27	21
Harvesting	7	13	11	24
Transportation of harvested produce	Nil	Nil	9	25
Pulses				
Sowing	Nil	Nil	8	26
Picking	47	10	Nil	Nil
Dairy				
Feeding animals	Nil	Nil	8	26
Cleaning animals	Nil	Nil	8	26
Maintenance of cattle shed	Nil	Nil	8	26
Milking animals	Nil	Nil	8	26
Taking the animals for grazing	Nil	Nil	8	26

4.5 GENDER ROLES OF LABOUR IN RICE BASED FARMING SYSTEM

A bird's eye view of Table 22 gives a prioritised picture of the roles performed by female and male respondents in rice based farming system. The various operations in rice farming were categorized into pre harvest, harvest and post harvest operations. The operations which were incorporated in the pre harvest stage were ploughing, cleaning of field boundaries, seed treatment, nursery sowing, trampling, pulling of seedlings, transporting and spreading of seedlings, transplanting, irrigation, weeding, fertilizer application and plant protection measures. Within harvest category, the operations included were reaping the crops, bundling and transportation of tillers. Post harvest operations included threshing grains, winnowing, storage of grains, heaping and storage of straw.

The operations identified under the banana cultivation were taking pits, preparation of suckers for planting, transportation of suckers, planting of suckers, organic manure application, staking, fertilizer application, harvesting and transporting of harvested bunch. The operations identified in vegetable cultivation were land preparation, sowing/planting, fertilizer application, irrigation, weeding, spraying of plant protection chemicals, harvesting and transportation of harvested produce. With respect to pulse cultivation the two operations that were listed out was sowing and picking. They performed the following operations: feeding animals, cleaning animals, maintenance of cattle shed, milking animals and taking the animals for grazing.

In rice cultivation the roles performed by the female labourers that received top priority were in the order of winnowing and storage of grains at the first position followed by transplanting, weeding, reaping, threshing, bundling and transportation, pulling of seedlings, transporting and spreading of seedlings, nursery sowing, trampling, and lastly heaping and storage of straw. Operations, which were never performed by female labourer respondents in rice cultivation, were ploughing, cleaning of field boundaries, seed treatment, irrigation, fertilizer application and plant protection measures. Female labourer respondents performed none of the operations in banana cultivation

With respect to vegetable cultivation the roles performed by female labourers that received top priority were in the order of sowing/planting, and irrigation at the first position followed by harvesting and weeding. Operations that were never performed by female labourer respondents in vegetable farming were land preparation, spraying of plant protection chemicals, fertilizer application and transportation of harvested produce.

In pulse crops like black gram and green gram the only operations performed was picking. Female labourers never performed sowing.

Regarding rice farming the roles performed by male labourer respondents that received top priority were in the order of reaping, bundling and transportation of tillers and threshing grains in the first place followed by cleaning of field boundaries, trampling, nursery sowing, transporting and spreading of seedlings, winnowing, pulling of seedlings, heaping and storage of straw, storage of grain, ploughing, fertilizer application, plant protection measures, seed treatment, transplanting and weeding. The only operation that was never performed by the male labourer respondents was irrigation.

With respect to banana cultivation, the operations performed by male labourer respondents were ranked in the order of staking, taking pits, planting, organic manure application, preparation of suckers for planting, fertilizer application, harvesting, transportation of suckers, transportation of harvested bunch. The operation that was never performed by male labourer respondents in banana was plant protection chemical application.

In vegetable cultivation, the operations performed were in the order of land preparation, spraying of plant protection chemicals, sowing/planting, irrigation, harvesting, transportation of harvested produce, weeding, fertilizer application. Regarding pulse crop the operations performed by male labourer respondents were prioritised as sowing and picking.

Among the total 160 labourer respondents of both genders, only four male labourer respondents were employed in dairy sector. Labourers who were employed in dairy sector performed the following operations: feeding animals,

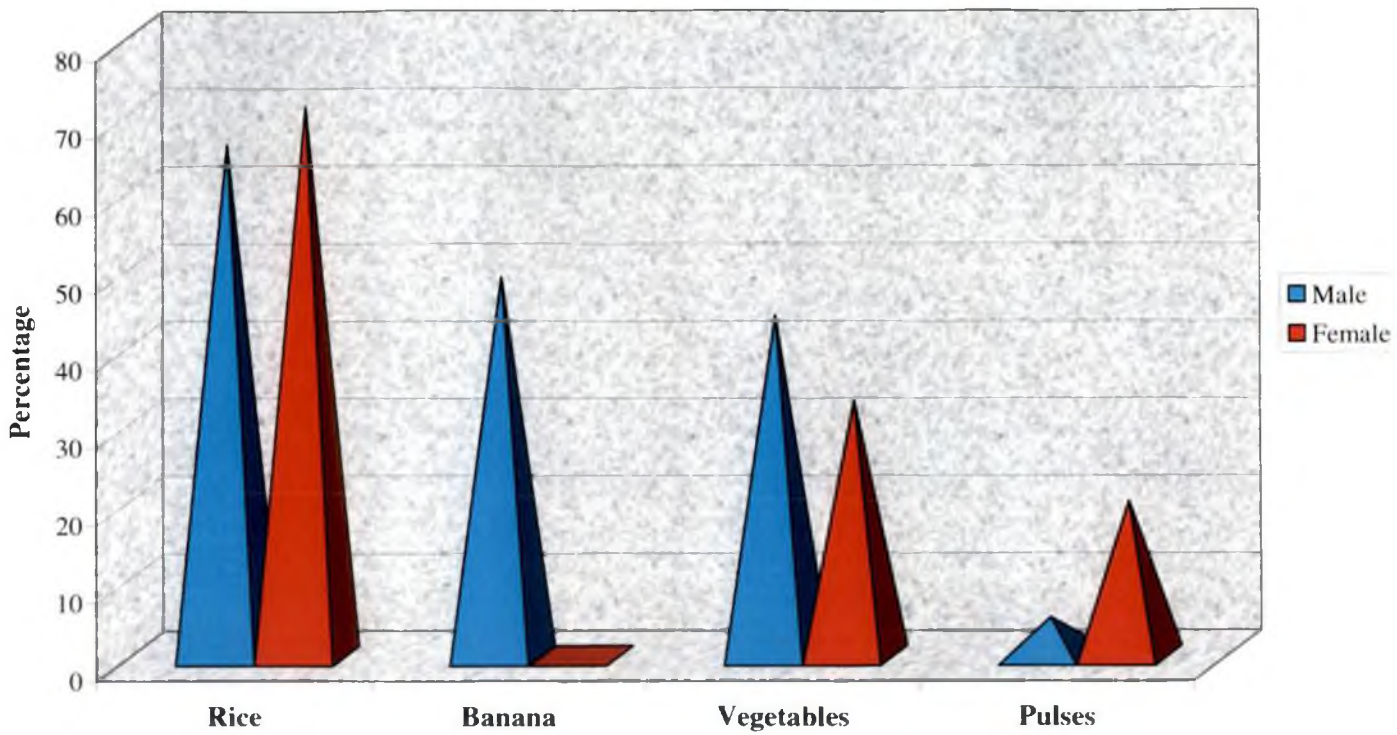


Fig. 5. Extent of labour participation

cleaning animals, maintenance of cattle shed, milking animals and taking the animals for grazing with equal priority.

4.6 EXTENT OF LABOUR PARTICIPATION IN RICE BASED FARMING SYSTEM

Table 23. Extent of labour participation in rice based farming system

Gender	Rice			Total	Banana	Vegetables	Pulses
	Preharvest	Harvest	Postharvest				
	Score	Score	Score	Score	Score	Score	Score
Male	0.78 (39)	2.0 (100)	1.26 (63)	1.32 (66)	0.98 (49)	0.87 (44)	0.09 (5)
Female	0.79 (40)	1.7 (83)	1.4 (71)	1.4 (71)	Nil	0.65 (33)	0.39 (20)

Figures in parenthesis indicate percentage

Table 23 and Fig 5 indicates that among the male respondents the extent of participation was maximum in rice crop with (66 %) followed by banana (49 %), vegetables (44%) and pulses (5%). Within rice crop there was a 100% participation in harvest stage, followed by post harvest stage (63%) and lastly preharvest stage (39 %).

Among female respondents the extent of participation in rice crop was maximum with (71 %), followed by pulses (20 %) and vegetables (33 %). None of the female respondents participated in any of the operations in banana cultivation. This shows that female labourers are generally not employed in banana cultivation.

The extent of participation with respect to rice crop was more for female labourers than male labourers. This was because in case of rice farming generally male agricultural labourers were employed for ploughing, land preparation, fertilizer application, plant protection measures, harvesting, drying and heaping of straw. Female agricultural labourers were mostly employed for sowing, transplanting, weeding, harvesting and storage of grains. Likewise, also in pulses

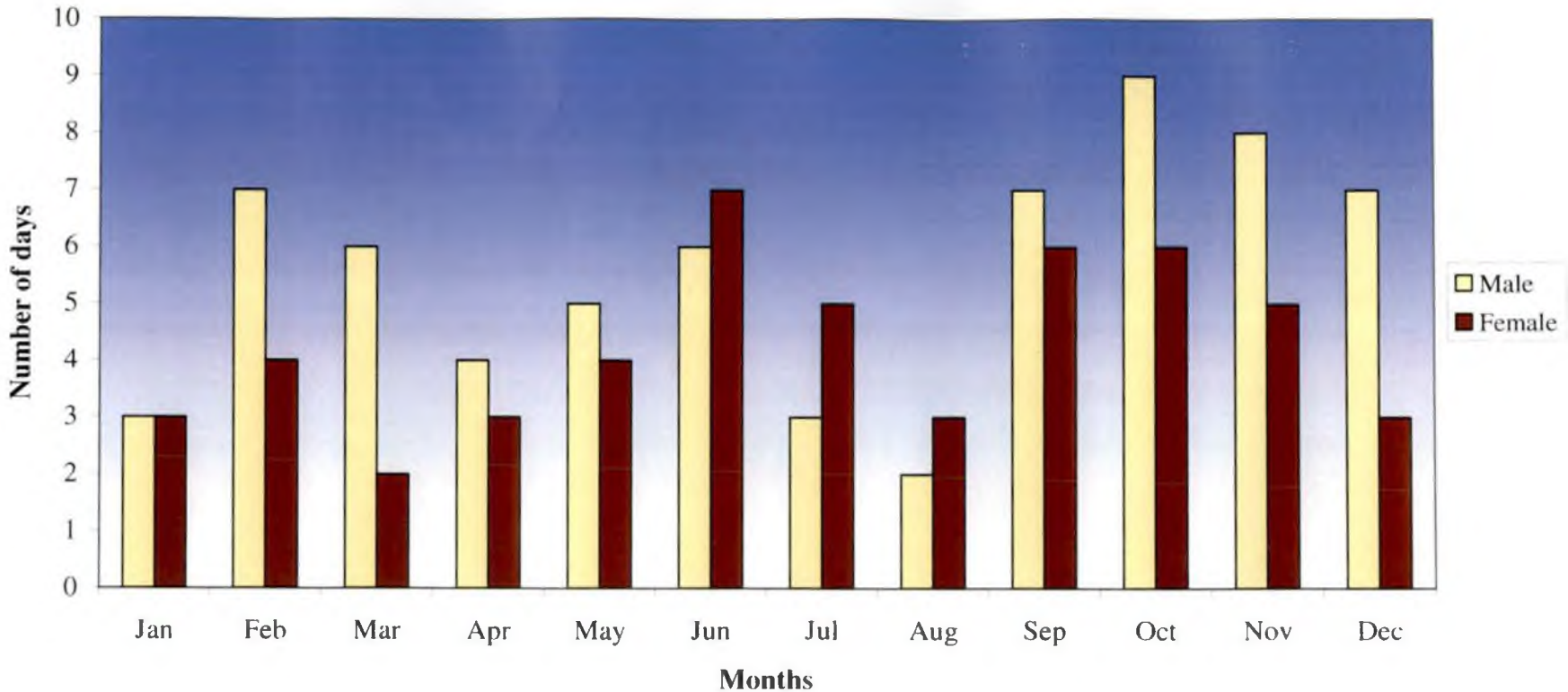


Fig. 6. Monthwise employment pattern of agricultural operations

the participation rate was more for female labourers since they were widely employed for pulse picking operations. As it was mentioned elsewhere only four male labourers out of eighty male respondents were employed in dairy sector for monthly wages. They performed all the operations. Hence the participation of male respondents in dairy was 2.5% and for female it was 0%.

4.7 EMPLOYMENT PATTERN OF AGRICULTURAL LABOUR

Throughout the history of mankind the economic function has been a joint responsibility of men and women in agrarian sector. In this study, the month wise employment days of agricultural labourers, in both agriculture and non agriculture operations, the distribution of working days for various agricultural and non agricultural operations received by a labourer per year, average time spent by labourers to perform agricultural and non agricultural operations were studied. The results are presented and discussed below.

4.7.1 Monthwise Employment Pattern of Respondents in Agricultural and Non-agricultural Operations

Table 24. Month wise employment pattern of agricultural operations in rice based farming system. (In Days)

Gender	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Male	3 (4)	7 (10)	6 (9)	4 (6)	5 (7)	6 (9)	3 (4)	2 (3)	7 (10)	9 (13)	8 (12)	7 (10)	67
Female	3 (6)	4 (8)	2 (4)	3 (6)	4 (8)	7 (14)	5 (10)	3 (6)	6 (12)	6 (12)	5 (10)	3 (6)	51

Figures in parenthesis indicate percentage

A cursory view of Table 24 and Fig 6 indicates the monthwise employment pattern of respondents in agricultural operations. It was observed that with respect to agricultural operations the total number of days of employment in a year for a male agricultural labourer was 67 days. It was also inferred from the

table that for male agricultural labourers there was relatively more employment in the months of Febrauary, October and November. During the months of January, July and August there was a slack in employment.

For a female agricultural labourer the total number of days of employment in a year was 51 days. The table also indicates that for female agricultural labourers relatively more number of days of employment was in the months of June, September and October. All the other months recorded relatively less number of days of employment.

In Thiruvananthapuram district agriculture is mainly dependent on monsoon. It is mainly during the onset of southwest monsoon (May-June) and northeast monsoon (September-October), various agricultural operations are being done.

Regarding rice cultivation in most of the areas of study location, mostly rice is cultivated only for one season namely the first season (May-June to September-October). Land preparation for first crop starts during last week of April-May. Land preparation, application of fertilizers and sowing are the operations in rice during April-May. During June, land preparation of main field, transplanting and topdressing are done. During July month second top dressing, plant protection and weeding are the main works in paddy fields. During September-October months, harvesting of first crop will get completed. In case of second crop rice cultivation, simultaneously during October till November land preparation and transplanting for the second crop will be performed. By January-February month, the second crop will be ready for harvest. During this second cropping season too all the operations from sowing, transplanting, fertilizer application, weeding etc...should be done like that of first season crop.

In some of the areas of study location with Rice-Rice-Pulses as cropping pattern, after the harvest of second crop, pulses like black gram and green gram are sown. These rice fallow pulses are cultivated for a period of three months and then again rice season starts from April-May.

Normally in areas having Rice- Banana cropping pattern both rice and banana will be cultivated in a same piece of land in the same year. But in the

study area having cropping pattern as Rice-Banana, rice cultivation is done during one year and the subsequent year it is followed by banana cultivation. Banana cultivation begins during the second crop season of first year. Operations like pit formation, organic manure application, sucker preparation and planting are done during November-December. De-suckering is done during March-April. Staking is also done using casuarina poles simultaneously. Irrigation is given at regular intervals depending on the soil conditions. Harvesting is done during the month September. During the second year rice cultivation is done during the second cropping season by October.

Regarding vegetables in a Rice-Vegetables cropping pattern, the cultivation period is during the second and third crop seasons (October to April). In Rice-Rice-Vegetables cropping pattern, vegetables are cultivated only during the third cropping season (January-February to April). The various vegetables raised in Thiruvananthapuram district are amaranthus, cowpea, cucumber, snake gourd and pumpkin.

In the case of second crop vegetable farming, the land preparation will be started by October-November, followed by either sowing or planting of crops. Amaranthus, cucumber and pumpkin are cultivated within the mainfeild whereas cowpea and snake gourd are cultivated in the ridges. For these crops pandals are erected at the borders during the month of December for the crop to trail. Weeding and fertilizer application is also done during the month of December for all vegetables. Irrigation is given for all the vegetables once in 2-3 days. Regular harvest is done during the maturation of crops.

It was confirmed in the present study that among the various crops in rice based farming system, rice is the only labour intensive crop, which requires continuous management right from nursery preparation till post harvest operations. Female labourers get more days of employment only in rice cultivation especially during transplanting and weeding, which are exclusively categorized as female jobs in the gender segregation of labour. Related result was also reported by Shanthy (1996).

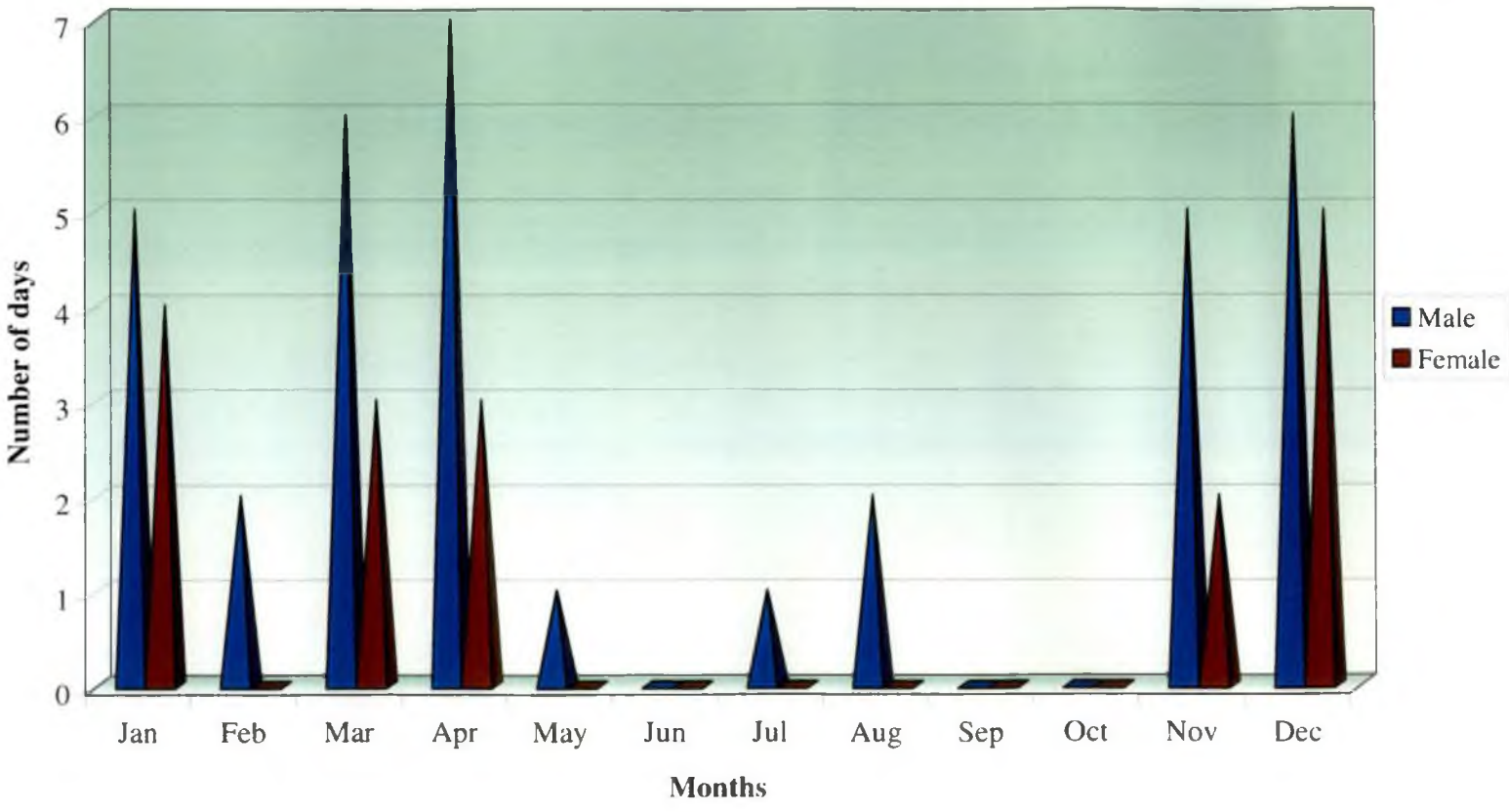


Fig. 7. Monthwise employment pattern of non-agricultural operations

Regarding banana cultivation almost all operations are performed only by male labourers, which accounts for employment of male labourers during the months of banana cultivation. Pulse picking, which is solely done by female labourers, will account for the employment days received during the months of March, April and May. Vegetable cultivation provides few employment days for both male and female labourers during the months of November and February-March. Anyhow family takes up most of the operations in vegetable cultivation labour and hence hired labourers are employed mainly for land preparation and pandal formation.

Table 25 Monthwise employment pattern of non-agricultural operations in rice based farming system. (In Days)

Gender	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Male	5 (14)	2 (6)	6 (17)	7 (20)	1 (3)	0	1 (3)	2 (6)	0	0	5 (14)	6 (17)	35
Female	4 (24)	0	3 (18)	3 (18)	0	0	0	0	0	0	2 (12)	5 (29)	17

Figures in parenthesis indicate percentage

Table 25 and Fig 7 indicates that in a year male respondents receive 35 days of employment in non-agriculture sector. The maximum number of labour days can be obtained in the month of April (7 days). June, September and October are the months where male labourers have a slack in their employment. The non-agricultural operations performed by the male labourers during the month of April were headloads, construction works and road works. Agricultural labourers performed non-agricultural operations only when there is absence of work in agricultural sector. Usually male labourers migrate to other places for construction work during the months of March and April.

Table 25 makes clear that in a year female labourers on an average will get 17 days of non-agricultural work. During December they receive a maximum employment of 5 days. Febrauary, May, June, July, August, September and October are the seven months where female agricultural labourers don't get

Table 26. Employment days spent in various agricultural operations.

Agricultural Operations	Employment days / operation / year	
	Male	Female
Rice (PreHarvest)		
Ploughing	3	Nil
Cleaning field boundaries and levelling	3	Nil
Seed treatment	0	Nil
Nursery sowing	2	2
Trampling	0	0
Pulling of seedlings	2	2
Transporting and spreading of seedlings	2	2
Transplanting	0	5
Irrigation	Nil	Nil
Weeding	Nil	7
Fertilizer application	0	Nil
Plant protection measures	0	Nil
Rice (Harvest)		
Reaping	4	3
Bundling and transportation	2	2
Rice (Post harvest)		
Threshing grains	2	2
Winnowing	1	4
Storage of grains	1	4
Heaping and Storage of straw	1	Nil
Banana		
Taking pits	5	Nil
Sucker preparation	1	Nil
Sucker transportation	1	Nil
Planting	4	Nil
Organic manure application	3	Nil
Staking	5	Nil
Fertilizer application	1	Nil
Plant protection chemical application	Nil	Nil
Harvesting	2	Nil
Transportation	0	Nil
Vegetables		
Land preparation	5	Nil
Sowing / Planting	3	2
Fertilizer application	1	Nil
Irrigation	3	5
Pandal formation	3	Nil
Weeding	2	4
Spraying of plant protection chemicals	1	Nil
Harvesting	2	2
Transportation of harvested produce	0	Nil
Pulses		
Sowing	2	Nil
Picking	Nil	5

employment. Female labourers don't migrate for seeking work in non-agricultural operations. They mostly get engaged in construction work, head loads and road works within the locality. Hence female respondents have relatively lower income in non-agricultural operations than their male counterparts.

4.7.2 Employment Days for Various Agricultural and Non-agricultural Operations per year

Table 26 shows that in case of rice cultivation, with respect to male agricultural labourer the highest number of working days was spent in pre-harvesting stage. More labour days were spent for reaping, ploughing, cleaning and levelling of mainfield. Seed treatment, trampling, fertilizer application and plant protection measures were the operations performed by very few labourers, that too rarely.

In banana cultivation, regarding male respondents more number of employment days was consumed for pit formation, planting and staking. Less number of days was consumed for transportation of sucker and harvested produce. In vegetable cultivation, Regarding vegetable cultivation, male respondents spent maximum number of days for land preparation and minimum for harvesting. In case of rice fallow pulse cultivation highest number of days were spent for sowing and male respondents scarcely performed picking.

Among female respondents the least number of working days were spent for nursery sowing and trampling. The highest number of employment days was spent for weeding and transplanting Female agricultural labourers were never employed in banana cultivation. In vegetable farming female respondents, maximum employment days were spent for irrigation and minimum was for harvesting. Regarding female respondents highest number of days was spent for picking and they very rarely performed sowing.

Table 27. Employment days spent in various non-agricultural operations.

Non agricultural operations	Employment days/operation/year	
	Female	Male
Head loads	7	10
Construction work	5	18
Road work	5	7

A critical examination of data presented in Table 27 shows that among male respondents highest number of working days in non-agricultural sector was obtained in construction work followed by head loads and roadwork. For female respondents maximum number of employment days was spent for head loads followed by construction work and roadwork.

4.7.3 Labour Hours Spent in Agricultural and Non-agricultural Operations

Table 28 shows that in case of rice cultivation, with respect to male agricultural labourer the highest number of labour hours was spent for harvesting operations. Less labour hours was spent for fertilizer application. Among female respondents the least number of labour hours were spent for pulling of seedlings and highest number of labour hours was spent for transplanting. In banana cultivation, regarding male respondents more labour hours were consumed for staking and less labour hours for fertilizer application.

In vegetable cultivation, regarding male respondents more labour hours was spent for operations like land preparation, sowing/planting and weeding and minimum labour hours were spent for fertilizer application. In case of female respondents maximum labour hours was spent for planting and minimum labour hours were spent for irrigation.

In case of rice fallow pulse cultivation male respondents spent 2 hours for sowing. Regarding female respondents 7 hours was spent for picking operation.

Table 28. Labour hours spent in agricultural operations.

Agricultural Operations	Average time spent (Hrs) / Day	
	Male	Female
Rice (PreHarvest)		
Ploughing	6	Nil
Cleaning field boundaries and levelling	4	Nil
+Seed treatment	2	Nil
Nursery sowing	6	6
Trampling	6	6
Pulling of seedlings	4	4
Transporting and spreading of seedlings	4	4
Transplanting	10	10
Irrigation	Nil	Nil
Weeding	Nil	4
Fertilizer application	2	Nil
Plant protection measures	4	Nil
Rice (Harvest)		
Reaping	8	8
Bundling and transportation	8	8
Rice (Post harvest)		
Threshing grains	8	8
Winnowing	6	6
Storage of grains	6	6
Heaping and Storage of straw	6	6
Banana		
Taking pits	6	Nil
Sucker preparation	4	Nil
Sucker transportation	4	Nil
Planting	6	Nil
Organic manure application	6	Nil
Staking	8	Nil
Fertilizer application	1	Nil
Plant protection chemical application	Nil	Nil
Harvesting	3	Nil
Transportation	3	Nil
Vegetables		
Land preparation	6	Nil
Sowing / Planting	6	6
Fertilizer application	1	Nil
Irrigation	2	3
Pandal formation	6	Nil
Weeding	4	4
Spraying of plant protection chemicals	2	Nil
Harvesting	4	4
Transportation of harvested produce	4	Nil
Pulses		
Sowing	2	Nil
Picking	Nil	7

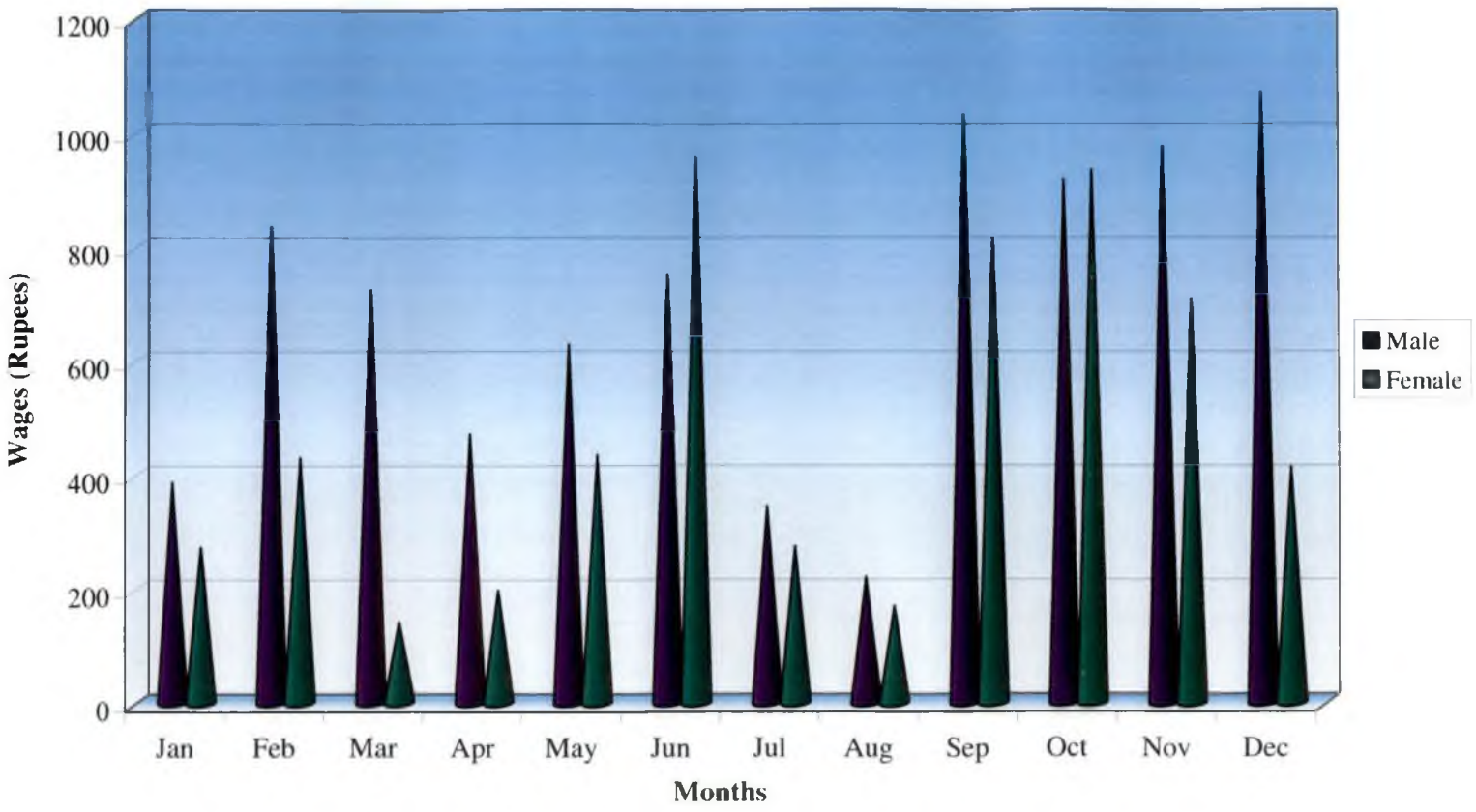


Fig. 8. Monthwise wage structure of agricultural operations

Table 29. Labour hours spent in non-agricultural operations.

Non agricultural operations	Average time (hrs) spent/day	
	Female	Male
Head loads	7	7
Construction work	8	8
Road work	9	9

A critical examination of data presented in Table 29 shows that among both the male and female respondents maximum labour hours in non-agricultural sector was spent in roadwork followed by construction work and head loads.

4.8 WAGE STRUCTURE OF AGRICULTURAL LABOUR

4.8.1 Monthwise Wage Structure of Agricultural Operations

Table 30. Monthwise wage structure of agricultural operations in rice based farming system. (In Rupees)

Gender	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
Female	273 (5)	430 (7)	142 (2)	198 (3)	434 (8)	957 (17)	275 (5)	170 (3)	813 (14)	934 (16)	708 (12)	414 (7)	5748
Male	387 (5)	834 (10)	723 (9)	471 (6)	628 (8)	750 (9)	346 (4)	221 (3)	1031 (12)	918 (11)	975 (12)	1070 (13)	8354

Figures in Parenthesis indicate percentage

It was found from the Table 30 and Fig 8 that male agricultural labourers could get highest income from agricultural labour during the months of September, October, November and December, as these months were the peak

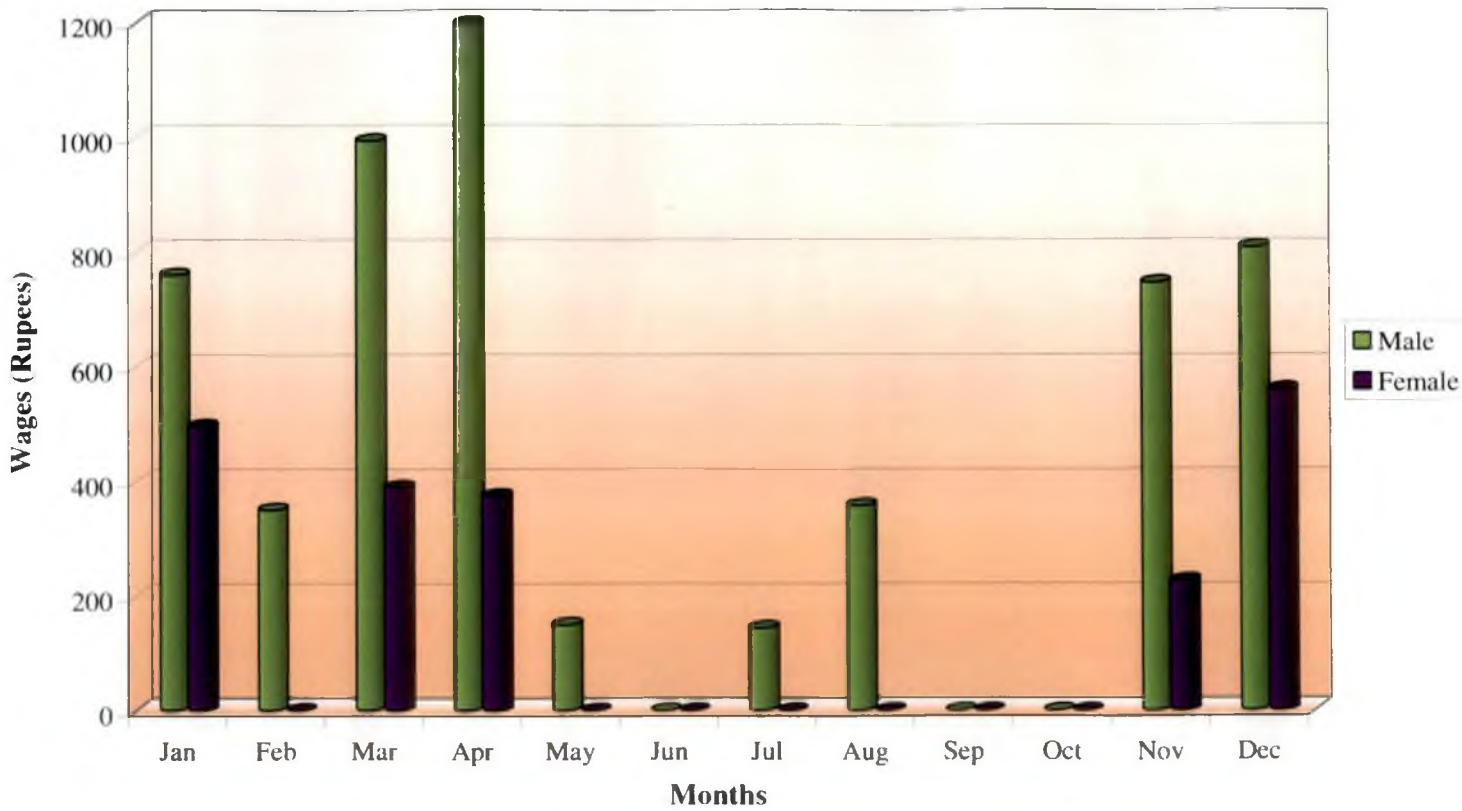


Fig. 9. Monthwise wage structure of non-agricultural operations

period for agricultural works. The least income from agricultural labour was received during July and August and November.

In case of female agricultural labourers maximum income from agricultural employment was received during the months of June and October. During these months most of the agricultural operations takes place and hence there is a higher income. Rest of all the months female labourers get a very few income. None of the months recorded zero wages, because of the operations like pulse picking, weeding and transplanting.

4.8.2 Monthwise Wage Structure of Non-agricultural Operations

Table 31. Monthwise wage structure of non-agricultural operations in rice based farming system (In Rupees)

Gender	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Female	496 (24)	0	390 (19)	375 (18)	0	0	0	0	0	0	226 (11)	560 (27)	2047
Male	760 (14)	350 (6)	994 (18)	1198 (22)	150 (3)	0	144 (3)	358 (6)	0	0	746 (14)	808 (15)	5508

Figures in parenthesis indicate percentage

Table 31 and Fig 9 indicate that male respondents received maximum income from non-agricultural labour during March and April. It was only during these months of March –April; agricultural labourers migrate to other nearby districts to seek employment in construction works. During June, September and October there was no non-agricultural income. This is because those are the months where there is peak period for agricultural labour. Female respondents received very less income in case of non-agricultural operations; this was because of their less participation in non-agricultural labour. They obtained maximum non-agricultural income during December.

4.8.3 Wage Pattern of Various Agricultural Operations

It could be seen from Table 32 that for most of the agricultural operations the wage rates are similar for both male and female respondents. Transplanting of

Table 32. Average wage rate received per agricultural operation.

Agricultural Operations	Wage received (Rs)/ Operation	
	Male	Female
Rice (PreHarvest)		
Ploughing	350	Nil
Cleaning field boundaries and leveling	150	Nil
Seed treatment	50	Nil
Nursery sowing	50	50
Trampling	50	50
Pulling of seedlings	50	50
Transporting and spreading of seedlings	50	50
Transplanting	80	60
Irrigation	Nil	Nil
Weeding	Nil	40
Fertilizer application	50	Nil
Plant protection measures	45	Nil
Rice (Harvest)		
Reaping	100	100
Bundling and transportation	100	100
Rice (Post harvest)		
Threshing grains	100	100
Winnowing	75	75
Storage of grains	100	75
Heaping and Storage of straw	125	Nil
Banana		
Taking pits	120	Nil
Sucker preparation	50	Nil
Sucker transportation	50	Nil
Planting	120	Nil
Organic manure application	120	Nil
Staking	120	Nil
Fertilizer application	50	Nil
Plant protection chemical application	Nil	Nil
Harvesting	75	Nil
Transportation	50	Nil
Vegetables		
Land preparation	125	Nil
Sowing / Planting	100	75
Fertilizer application	50	Nil
Irrigation	40	40
Pandal formation	150	Nil
Weeding	40	40
Spraying of plant protection chemicals	15	Nil
Harvesting	40	40
Transportation of harvested produce	40	Nil
Pulses		
Sowing	50	Nil
Picking	Nil	30

rice, sowing/planting in vegetables are the operations where there is wage discrimination. The female respondents themselves opined that the quantum of work performed will be more for male labourers, and hence they are paid more.

4.8.4 Wage pattern of various Non-agricultural Operations

Table 33. Average wage rate received per non-agricultural operation.

Non agricultural operations	Wage received (Rs) /Operation	
	Female	Male
Head loads	100	120
Construction work	100	150
Road work	125	150

Table 33 indicates that there was absolute wage discrimination between male and female respondents in case of non-agricultural operations. The reasons opined for this by male and female labourers were the quantum of work performed by female labourers was less. Male labourers perform the operations, like construction work and roadwork, which involve more physical activity whereas female labourers perform operations like transportation of materials by head loads.

4.9 RELATION BETWEEN SELECTED INDEPENDENT VARIABLES AND DEPENDENT VARIABLES

Correlation analysis was done to find the intensity of association between the selected independent variables with each of the dependent variables namely the attitude of labourers towards improved farm practices and extent of labour participation. The independent variables selected for correlation analysis were age, caste, family size, family educational status, occupation, land holdings, annual income, experience in agricultural labour, mass media utilization, economic motivation, contact with extension agency, political participation, labour union participation, work commitment and influence of labour union.

Table 34. Correlation between selected independent variables and attitude of agricultural labourers towards improved farm practices

Sl.No	Profile characteristics	Correlation coefficient	
		Male respondents	Female respondents
1	Age	0.5735 *	0.6160 *
2	Caste	0.0829	0.1212
3	Family size	0.0848	0.1773
4	Family educational status	0.4529 *	0.3702 *
5	Occupation	0.4009 *	0.4678 *
6	Land holdings	0.3447 *	0.0846 *
7	Annual income	0.5252 *	0.4484 *
8	Experience in agriculture labour	0.5616 *	0.6508 *
9	Mass media utilization	0.5315 *	0.5009 *
10	Economic motivation	0.4608 *	0.5363 *
11	Contact with extension agency	0.5607 *	0.5338 *
12	Political participation	0.0488	0.1133
13	Labour union participation	0.1189	0.1545
14	Work commitment	0.1631	0.0700
15	Influence of labour union	0.0270	0.1963

* Significant at 1% level of significance

4.9.1. Relation between selected independent variables and attitude of agricultural labourers towards improved farm practices

The results of the simple correlation between the selected independent variables and attitude of agricultural labourers towards improved farm practices are presented in Table 34. It reveals that age, family educational status, occupation, land holdings, annual income, experience in agriculture labour, mass media exposure, economic motivation and contact with extension agency, were significantly related to attitude towards improved farming practices for both male and female respondents. Caste, family size, political participation, labour union participation, work commitment and influence of labour union were the variables that did not exhibit any significant relationship with the attitude towards improved farm practices.

The reasons for the positive and significant relationship between age, family educational status and land holdings with attitude towards improved farm practices can be substantiated as follows: As age increases, people tend to be more exposed to farming practices. They might develop more interest in improved farm practices. Likewise as family educational status increases wisdom of person increases, by gaining more insight in farming. More the possession of land holdings, more a person will be interested in practising improved farm practices to increase the returns of his own land cultivated. Hence labourers who also perform crop cultivation by owing certain acres of land will develop interest in improved farm practices .

The theory of attitude behaviour congruency (Fishbein and Raven, 1962) indicates that the development of favourable or unfavourable attitude towards an object or situation will be dependent on the benefits associated with the object. Since the household economy depends on the occupation of respondents, which in turn is responsible for fetching annual income, there is no surprise in present finding that economic motivation and annual income are significantly related to attitude towards improved farm practices.

Table 35. Correlation between selected independent variables and extent of labour participation of male respondents

Sl.No	Profile characteristics	Correlation coefficient			
		Rice	Banana	Vegetables	Pulses
1	Age	0.2156*	-0.2596 *	0.0354	0.1054
2	Caste	0.0440	-0.1719	0.1051	0.0804
3	Family size	0.0807	-0.2075	0.0894	-0.0348
4	Family educational status	0.1935	-0.1652	0.0118	0.0909
5	Occupation	0.2525 *	0.2228*	0.2392*	0.0330
6	Land holdings	0.2664*	-0.0080	0.1174	-0.1136
7	Annual income	0.2516 *	0.2383*	0.2407*	-0.0067
8	Experience in agriculture labour	0.2597*	0.2156	0.0699	0.0680
9	Mass media utilization	0.2026	-0.1609	0.0731	0.0952
10	Economic motivation	0.2535*	0.2369*	0.2385*	0.1629
11	Contact with extension agency	0.2052	-0.1903	0.1384	0.1384
12	Political participation	0.0654	-0:1241	0.1051	0.1051
13	Labour union participation	-0.1074	-0.1575	0.0626	0.0626
14	Work commitment	0.2462*	0.2553*	0.1406	0.1406
15	Influence of labour union	0.0844	-0.1551	0.0068	0.0068

* Significant at 5% level of significance

Increased mass media utilisation makes a person aware of the importance of improved farm practices and increases their curiosity to know more about that. Also contact with extension agency will improve, update and supplement their knowledge level about the improved farm practices. Hence mass media utilization and contact with extension agency developed a positive and significant relationship with attitude towards improved farm practices.

4.9.2.Relation between Selected Independent Variables and Extent of Labour Participation

4.9.2.1 Male Labourers

From Table 35 reveals the relationship between the selected independent variables and extent of labour participation in rice, banana, vegetables and pulses, with respect to male labourers.

Of the 15 independent variables studied in the case of rice crop seven variables were significantly correlated. They were age, occupation, land holdings, annual income, experience in agriculture labour, economic motivation and work commitment. With respect to banana, among the 15 independent variables correlated four variables were found to be positive and significantly correlated. They were occupation, annual income, economic motivation and work commitment. Age was negatively and significantly correlated with extent of labour participation in banana. In vegetables the three variables, which established positive significant correlation, were occupation, annual income and economic motivation. All the independent variables exhibited insignificant relationship with the extent of labour participation in pulse cultivation.

Age was positively and significantly correlated to the extent of labour participation in rice. This may be because most of the agricultural labourers employed in rice cultivation were under old age group, and as age increases the extent of participation may also increase. The finding of the result is in conformity with the study conducted by Thomas (1998). Age was negatively and significantly correlated to the extent of labour participation in banana. This may be because,

agricultural labourers employed in banana cultivation are mostly of middle and younger age group.

Occupation was positively and significantly correlated to the extent of labour participation in rice, banana and vegetable cultivation. Labourers who have more participation in crop cultivation namely rice, banana and vegetables will have their occupation more confined to agriculture. They either don't have or have a very less role in subsidiary occupation. Hence may be the significant positive correlation.

Land holding size was positively and significantly correlated to extent of labour participation with rice cultivation. Marginal farmers who possess less area of land for cultivation acts as both family labouring their own land and as wage labour in others land. Consequently they will have a greater labour participation in crop cultivation. Therefore there exists a positive and significant correlation between landholdings and extent of labour participation.

Annual income was positively and significantly correlated to extent of labour participation in rice, banana and vegetables. Agricultural labourers with greater extent of participation will fetch more employment days and accordingly will have a higher annual income. May be this is the reason for the positive and significant correlation.

Experience in agriculture labour was positively and significantly correlated to extent of labour participation in rice farming. Labourers with more experience in rice cultivation will be more skilful and will have high participation in rice cultivation. Hence the positive and significant correlation between experience in agriculture labour and extent of labour participation.

Economic motivation was positively and significantly correlated to the extent of labour participation with rice, banana and vegetable cultivation. The more one is driven by economic benefit, the more the person will participate in crop cultivation to obtain more money. This might be the reason for such a result.

Work commitment was positively and significantly correlated to extent of labour participation in rice and banana cultivation. This is the spontaneous dedication of an individual towards the work performed. Such a person will get

Table 36. Correlation between selected independent variables and extent of labour participation among female respondents.

Sl.No	Profile characteristics	Extent of labour participation		
		Rice	Vegetables	Pulses
1	Age	0.2424*	-0.2459*	0.0270
2	Caste	0.0130	0.0104	-0.1511
3	Family size	0.1285	0.0814	-0.0089
4	Family educational status	0.1084	0.0922	0.0344
5	Occupation	0.2508*	0.0158	0.0903
6	Land holdings	0.1302	0.0578	0.1485
7	Annual income	0.2353 *	0.2147*	0.0632
8	Experience in agriculture labour	0.2231*	0.0231	-0.0367
9	Mass media utilization	0.1813	0.0598	0.1047
10	Economic motivation	0.2268 *	0.2180*	0.2691*
11	Contact with extension agency	0.0958	0.0903	-0.0086
12	Political participation	0.0981	-0.0174	-0.0228
13	Labour union participation	-0.0801	-0.0179	-0.1020
14	Work commitment	0.2492 *	0.0037	-0.0349
15	Influence of labour union	-0.0386	-0.0087	-0.1493

* Significant at 5% level of significance

more employment opportunity and thereby a higher extent of labour participation and hence this result.

All selected independent variables had a non-significant relationship with extent of labour participation in pulses. Either family labour or female labourers perform most of the operations in pulse cultivation. Very rarely male labourers are employed too only for sowing operations. This may be the reason for such a result.

4.9.2.2 Female Labourers

Table 36 reveals the relationship between the selected independent variables and extent of labour participation in rice, vegetables and pulses, with respect to female labourers.

Of the 15 independent variables studied in the case of rice crop six variables were significantly correlated. They were age, occupation, annual income, experience in agriculture labour, economic motivation and work commitment. With respect to vegetable cultivation, among the 15 independent variables correlated two variables were found to be positively and significantly correlated. They were occupation, annual income and economic motivation. Age was negatively and significantly correlated with extent of labour participation. In pulse crop all the independent variables exhibited insignificant relationship with the extent of labour participation except economic motivation.

Age was positively and significantly correlated to extent of labour participation in rice farming. This may be because mostly elderly women perform rice-farming operations than younger women. Age was negatively and significantly correlated to extent of participation in vegetable cultivation. This may be because of the higher participation of younger women in vegetable cultivation.

As the occupation of a person is more restricted to agricultural labour greater will be her participation in agricultural operations. This explains the reason for significant and positive relation between occupation and extent of participation in rice and vegetable cultivation of female agricultural labourers.

Table 37. Constraints faced by the male labourers in rice based farming system

(n = 80)

Sl.No.	Constraints	Frequency	Percentage	Rank
1	Reduced employment opportunities within agriculture sector	72	90	I
2	Conversion of rice farming land for cultivation of commercial crops and also for other non-agricultural purposes.	60	75	II
3	Pressure to shift in non-agricultural sector	54	68	III
4	More involvement of family labour	34	43	IV
5	Preference of particular labourer by employer farmer	25	32	V
6	Low price of agricultural commodities	23	29	VI
7	Lack of knowledge of improved farm practices and farm implements	21	26	VII
8	Unnecessary political interference	17	21	VIII
9	Absence of governmental support	15	19	IX
10	Negative attitude towards agriculture	12	15	X

A labourer who is desperate for a better living in order to increase social status will be more involved in crop cultivation to fetch more income. Hence she may participate in more activities to get more annual income. This may be the reason for significant positive correlation of annual income and extent of labour participation in rice and vegetable farming.

When the experience in agriculture labour is more, the labourer will perform more operations in crop cultivation. Hence there is a positive and significant relation between experience in agriculture labour and extent of labour participation in rice cultivation.

Labourers seeking monetary gains are likely to be progressive and try to participate more in agriculture labour. May be this is the cause for positive and significant correlation of economic motivation and extent of labour participation in rice, vegetables and pulse cultivation.

As in the case of male labourers, dedication of an individual towards the work performed will get her more employment opportunity and thereby a higher extent of labour participation. Hence there may be a positive significant correlation between work commitment and extent of labour participation in rice cultivation.

4.10 CONSTRAINTS EXPERIENCED BY FEMALE AND MALE AGRICULTURAL LABOURERS IN RICE BASED FARMING SYSTEM

4.10.1 Constraints Experienced by Male Agricultural Labourers

A perusal of Table 37 reveals the constraints faced by male agricultural labourers in rice based farming system. The constraints experienced were reduced employment opportunities within agricultural sector, conversion of rice farming land for cultivation of commercial crops and for other non-agricultural purposes, pressure to shift in non-agricultural sector, more involvement of family labour, preference of particular labourer by employer farmer, low price of agricultural commodities, lack of knowledge of improved farm practices and farm

implements, unnecessary political interference, absence of governmental support and negative attitude towards agriculture. These constraints are explained in detail as following:

Reduced employment opportunities within agricultural sector

Conversion of farming lands for other purposes, spread of high yielding varieties, pest and disease resistant varieties, use of pesticides, herbicides and fungicides, substitution of men by machines, shortage of skilled workers etc have resulted in reduced employment opportunities within agricultural sector.

Conversion of rice farming land for commercial crops cultivation and other non-agricultural purposes

Due to increase in population, agricultural farms got subdivided resulted in very small-sized farms. Since small farms are not viable the cultivators adopted farming as a subsidiary activity and preferred to cultivate crops that require less personal attention like that of banana and vegetables. Several problems, as perceived by farmers like non-availability of timely labour, high wage rate of labourers and difficulty in marketing of harvested produce and low market price of rice, were mainly responsible for avoidance of rice cultivation. The population pressure has also resulted in conversion of farming lands as housing sites and for other industrial purposes. Moreover today's youth are reluctant to take farming as a profession. So there is a steep decline in area of cultivable land, consequently the agricultural labourers also get decreased labour days of employment.

Pressure to shift in non-agricultural sector

Due to the reduced employment opportunities within agricultural sector, agricultural labourers are forced to migrate to nearby districts to work in non-agricultural sectors .Non agricultural sector mainly comprises of construction works and road works. More labour days of work available in non-agricultural sector is a factor attracting the agricultural labours to shift to non-agricultural sector. Anyhow in the case of construction works these migrated agricultural labourers do not get equal remuneration like the permanent masons due to their poor skills and low quality of work.

More involvement of family labour

In the case of rice crop, operations like ploughing, fertilizer application, and plant protection measures were mostly done by family labour. In vegetables irrigation, fertilizer application, harvesting and transporting of harvested produce etc... were most often performed by family labour. Regarding pulses too, both sowing and picking were performed by family labour. In banana, harvesting and transportation of harvested produce were mainly performed by family labour. The reason for high involvement of family labour is to save the cost of wage labour.

Preference of particular team of labourers by employer farmer

The recent strategy adopted by farmers is the piece rate arrangement of work, entered into a labourer's team. The sustainability of such labourer teams is based on trust, familiarity and dependability. Farmers prefer such labourer team for the mass availability of workers and piece rate strategy. Hence labourers who are not member of such permanent labourer team are unable to find continuous employment opportunity. This labourer team also will move together to nearby places for work in construction sector, when there is an extra demand for a large number of workers. Though they are unskilled and inexperienced, since they are in a group they are able to find a job.

Low price of agricultural commodities

Due to the low price of agricultural commodities in the market, the wages given in kind do not fetch enough income. Hence the labourers are unable to meet their monetary demand. If the harvested produce did not gain enough profit for the cultivator naturally the farmer himself will loose interest in farming and consequently the labourer also will be paid less. The entry of cheap imports due to globalisation has highly aggravated the scene.

Lack of knowledge of improved farm practices and farm implements

Modernization has transformed cultivation practices making them more dependent on external resources. Seeds, agricultural implements, fertilizers, etc

are purchased from outside local areas making local traditions and skills irrelevant. The agricultural labourers of these days are mostly elderly people and they have low knowledge regarding the improved farm practices and farm implements. Agricultural extension officers are more tied up with paper works and have less time to educate the farming community regarding the latest agricultural technologies. Another reason for lack of knowledge is that, though the farming community have high mass media exposure their mass media utilization in order to access agricultural information is generally very poor.

Unnecessary political interference

In Kerala, the ruling front and opposition are equally strong. If there is a political polarization and if one opposes the other any development process will be jeopardized. In order to have a smooth development activity and to achieve success in developmental activities interference of such political parties should be avoided.

Lack of Governmental support

There are a few welfare measure schemes for the under privileged from the government, that does not benefit the labourers in real situation. Labourers are not even aware of schemes like "*karshaka kshemanidhi*". More over there are no special schemes like insurance and monthly pensions for labourers.

Negative attitude towards agriculture

The younger generation doesn't consider agriculture as a prestigious occupation. People prefer to work in the secondary and tertiary sectors rather in farm sector. Regular paid employment even as a Class IV employee in a public or corporate office is considered more desirable than a livelihood from farm earnings.

Table 38. Constraints faced by the female labourers in rice based farming system

(n = 80)

Sl. No.	Constraints	Frequency	Percentage	Rank
1	Reduced employment opportunities within agriculture sector	64	80	I
2	Conversion of rice farming land for cultivation of commercial crops and other non-agricultural purposes.	55	69	II
3	Pressure to shift in non-agricultural sector	53	66	III
4	Drudgery prone tasks	50	63	IV
5	Seasonality of labour	42	53	V
6	Lack of governmental support	35	44	VI
7	Absence of effective labour union	28	35	VII
8	Preference of male labourers by employer	25	32	VIII
9	Absence of gender neutral farm implements	21	26	IX
10	Low social status	16	20	X

4.10.2 Constraints Experienced by the Female Agricultural Labourers

Table 38 shows a prioritised picture of constraints experienced by female agricultural labourers. Most of the constraints experienced by female and male labourers were same, except for a few like drudgery prone tasks, seasonality of labour, preference of male labourers, absence of effective labour union and absence of gender neutral farm implements.

Decreasing rice cultivation

Rice is the only crop that employs majority of female labourers. Operations like transplanting and weeding can fetch more labour days for women labourers. In case of male labourers the decrease in rice area can atleast fetch employment in cultivation of banana, vegetables, coconut and also in non-agricultural sector. But women agricultural labourers are merely left idle at home without job due to the decreased rice cultivation.

Drudgery prone tasks

Most of the operations performed by women like transplanting and weeding are strenuous tasks, which cause backache and fatigue. These jobs, which are gender segregated to women, are monotonous in nature, time consuming and have a low requirement of skill and physical power.

Seasonality of labour

Operations performed by women like pulse picking, transplanting and weeding in rice are seasonal. Hence apart form these peak seasons, women are left unemployed most often.

Preference of male labourers

In the market oriented cropping system, demand for female labour has considerably diminished. Only for certain operations like transplanting and

weeding women are constantly engaged. Employer farmers prefer male labourers rather than female labourers with the notion that men can perform more quantity and quality of work than their female counterparts. Hence, mainly male workers attend agricultural operations in the converted rice fields and garden lands.

Absence of effective labour union

Women doesn't have very active role in labour union functioning. Female respondents are not given enough opportunity to speak out their issues. Labour unions have seldom addressed the issues of gender disparities in wages and gender segregation of labour.

Absence of gender-neutral farm implements

Most of the farm implements are designated for male and hence female labourers are unable to use those (e.g. tractors, power tillers etc...). Hence technological inventions have added more grief by decreasing the available employment opportunity for women.

Low social status

Younger generation is reluctant to take up manual work and the educated youth of today's generation also don't like to send their household members to take up manual work especially in farm. Transplanting and weeding in rice fields are mostly caste-segmented operation and hence today's youth also don't want their family members to perform those operations. As a combined result of all these, there is a trend of viewing of agricultural labour as a low standard job continues.

4.12 SUGGESTIONS TO SAFEGUARD RICE BASED FARMING SYSTEM

The current trend of industrialisation of food production and corporitization of agriculture has threatened the socio-economic sustainability, natural resource sustainability and market sustainability of our country. Hence there is a real need for the policy makers and administrators to take a holistic view

of rice production system. Considering the global challenges, a multidimensional framework, which safeguards the interests of farmers and labourers along with the country's ecology and economy, should be developed. Some suggestions are put forth based on the researcher's observations during the study and also by the researcher's interactions with the respondents, social scientists and agricultural experts.

Socio economic sustainability:

1. Conversion of rice land for plantation crop cultivation can be arrested by making rice cultivation more profitable through measures such as assured market for produce, provision of inputs at low cost and farm credit at low rate of interest.
2. Developing gender-neutral machines, provision of technical training, especially for women labourers and hiring facility for farm implements.
3. Provision of improved working condition for labourers like fixed working hours, and uniform wage fixation without gender biasness.
4. Implementation of social security schemes for both farm workers and small and marginal farmers like life insurance schemes, financial assistance for marriage and academic purposes for their kin, maternity assistance for farmwomen and also life long monthly pension for older farm labourers. Farm workforce should be made aware of already exisisting welfare schemes like *"karshaka kshemanidhi"* and encouraged to get benefited.
5. Training the labourers for cottage industries like doll making, basket making, soap making, etc...ensuring them a buy-back arrangement. This can help them to fetch an additional income with no extra investment and also will serve as a useful leisure time activity.
6. Provide skill-oriented training for both women farmers and labourers for coconut cultivation, rubbertapping, staking in banana and pandal formation in vegetables and encourage them to perform the same.
7. Ventures like Labour force should be promoted under each Krishibhavan for the welfare of the labourers without any political overtone or gender biasness.

8. Kissan clubs can be organised under each Krishibhavan and the members can be encouraged to undertake cooperative farming and organic cultivation so as to reduce production cost.
9. All development plans can be formulated in local level under the control of concerned agriculture officers and peoples's representatives. The extension officials should be relieved from the intensive paper works and encouraged to take up more field activities.

Natural resource sustainability

10. Severe legal measures should be taken against the conversion of agricultural land for non-agricultural purposes
11. Promoting diversified farming and multiple cropping with vegetables, oilseeds, and millets instead practicing monocropping of rice. Anyhow ensure profitable off-season employment for labourers.
12. Promote System Rice Intensification (SRI) method of cultivation to get more yield with less water consumption. Also encourage organic farming and crop rotation with green manure crops so as to ensure soil fertility.
13. New rice varieties can be developed with more grain and straw yield with less water requirement. The straw yield can cater the fodder requirements of livestock, which in turn will increase the availability of organic manure.
14. Dairy farming can be promoted by providing more loans and subsidies so as to encourage the age-old eco-safe combination of human labour - bullock labour - fodder utilization - grain production system.
15. Apart from the employment oriented training in crop cultivation and cattle rearing farm households can be trained in agro forestry, piggery, goat rearing, floriculture and herbal farming. These are jobs which people can easily handle without affecting their agriculture related daily routine.

Market sustainability:

16. Considering the global challenges of WTO agreements and virtual water concept include legumes and vegetables in rice based cropping pattern.

17. In order to face the threat posed by cheap imports increase the productivity and quality of crops. Higher production can facilitate raw material supply for industrial production and export for global consumption.
18. Efforts should be made to minimise post harvest losses of crop produce, particularly in horticultural crops. Development of links with the food industry for product diversification and value addition to meet the demand of the changing society and international market is important.
19. Availability of marketing information is essential for identifying promising external markets before embarking on crop and product diversification
20. Policies and implementation of schemes for developing agriculture should include infrastructure development like transport and communication, pricing policies, subsidies, insurance schemes, tax, tarrifs etc...inorder to minimise risks and safeguard the interests of agripreneurs.

Summary

5. SUMMARY

Rice based farming system in Kerala continues to remain a very important farming system because of cultural, socio-economic and ecological reasons. It utilizes bulk of agricultural labour compared to other farming systems. There has been a steady fall in the area and production of paddy over the past few decades, though rice is the staple food of the state's three crores of peoples. Conversion of rice fields and the shift in cropping pattern in favour of less labour intensive and relatively more profitable plantation crops like arecanut, rubber and coconut reduced the employment opportunities of labourers especially women. In rice, traditionally women labourers do most of the agricultural operations. So the shift from food crops to cash crops has adversely affected the employment security of women agricultural labour. The situation thus demands an understanding of activity performance of women and men agricultural labourers whose lives are fundamentally structured in different in ways consequent to internalising socially approved gender roles. Keeping all these in view, the present investigation was undertaken with the following objectives:

To study female and male labour participation in the major operations of rice based farming system, their employment pattern and profile characteristics. It also focuses on the influence of labour organizations among agricultural labourers, the constraints experienced by the female and male agricultural labourers and their attitude towards improved farm practices.

The study was conducted at Kunnathukal panchayat and Karode panchayat in Thiruvananthapuram district. A list of agricultural labourers in the two selected panchayats was prepared. From each panchayat 40 male and 40 female labourers were selected randomly. Thus, totally 160 labourers were selected as the respondents of the study.

Detailed review of literature and discussions with experts and scientists in agricultural extension, pilot study and judge's rating were relied upon for the

selection of variables. Extent of labour participation and attitude of labourers towards improved farm practices were selected as the dependent variables of the study. The profile characteristics of the respondents were the independent variables. The data was collected using pretested and structured interview schedule. The statistical tools used were frequency method, simple percentage analysis and correlation analysis.

The salient findings are summarised below:

1. The frequency distribution of the profile characteristics of the respondents revealed that 59 percent of the female respondents and 65 percent of male respondents belonged to old age category (above 50 years). The study indicated that agricultural labourers in rice based farming system constituted mainly of old age people.
2. 88 percent of the female respondents belonged to SC/ST caste and among male respondents 55 percent belonged to the same caste.
3. More than 50 percent of respondents in both genders lived in joint family.
4. Regarding family educational status, 13 percent of female respondents and 57 percent of male respondents belonged to the high category.
5. 87.5 percent of female respondents and 25 percent of male respondents performed agriculture as the sole occupation. Almost 90 percent of the respondents don't possess land for own cultivation.
6. Regarding annual income majority of female respondents (53 %) were in the range of to Rs.2001/- and Rs.5000/- category and in the case of male respondents majority (73 %) belonged to the range of Rs.5001/- to Rs.10000/- category.
7. More than 60 percent of the respondents in both genders had more than 25 years of farming experience.
8. 24 percent of males and 5 percent of females were regular users of mass media sources to access farm informations.

9. 89 percent of females and 76 percent of males had high level of economic motivation.

10. Only 5 percent of females and 15 percent of males had high level of extension agency contact.

11. Regarding political participation, 14 percent of females and 39 percent of males had high level of participation.

12. 47 percent of males and 74 percent of females were non-members of labour organisations. All the rest were the members of *Kerala State Karshaka Thozhilai Union* (KSKTU).

13. 16 percent of female and 70 percent of male respondents had high level of work commitment.

14. 44 percent of females and 61 percent of males had high level of influence of labour organisation.

15. Time utilization pattern study revealed that both male and female spared same amount of time for employment, but females spared more time (4 hrs) household activities than their male counterparts (1hr).

16. 56 percent of male respondents and 49 percent of female respondents had high level of attitude towards improved farm practices.

17. A major finding regarding the gender roles revealed that exclusively females performed transplanting in rice. None of the female labourers were employed for banana cultivation. Operations like land preparation, plant protection measures, fertlizer application and transport of harvested produce were operations segregated absolutely for male respondents. Men never perform picking and women never perform sowing in case of rice fallow pulse cultivation. Only male labourers were employed in dairy sector.

18. Of the total 160 respondents only four male labourers were employed in dairy sector. They were permanent labourers and were paid on a monthly basis.

19. The extent of labour participation among female respondents for rice, vegetables and pulses were 71%, 33 %, and 20 % respectively. In case of male respondents the extent of labour participation for rice, banana, vegetables and pulses were 66%, 49%, 44% and 5% respectively.

20. Male respondents on an average received 67 labour days for agricultural labour and female respondents received 51 days for the same. Men received more days of agriculture labour in the months of October (13 days) and November (12 days). Women received more days of employment in agriculture during June (14 days), September (12 days) and October (12 days).

21. Regarding non-agricultural labour on average male respondents got 35 days of employment. Maximum labour days were received during April (7 days). June, September and October were the months male respondents remained unemployed with respect to non-agricultural works. On average female respondents received 17 labour days of non-agricultural work in a year. They experience slack of employment in non-agricultural sector during the months of Febrauary, May, June, July, August, September and October.

22. In the case of rice farming, male and female respondents performed 23 and 33 labour days respectively. Male respondents obtained 22 labour days of work in banana cultivation. In the case of vegetable cultivation male and female respondents performed 20 and 13 labour days of work respectively. Male and female respondents received 2 and 5 labour days of work related to pulse farming.

23. Male and female labourers obtained 35 and 17 labour days of non-agricultural works. The three important non-agricultural labour performed by agricultural labourers were carrying head loads, construction work and roadwork. Male respondents performed maximum labour days (18 days) of work in the construction sector. Female respondents received maximum labour days (7days) of work by carrying head loads.

24. The agricultural operation, which consumed maximum time, was transplanting in rice (10 hrs) followed by rice harvesting and staking in banana (8hrs). The non-agricultural operation that consumed maximum time was road work (9hrs).

25. The total number of employment days obtained by male respondents in a year was 112 days (67 days of agricultural labour + 35 days of non-agricultural labour). The total number of employment days obtained by female respondents in a year was 68 days (51days of agricultural labour + 17 days of non-agricultural labour).

26. Male and female respondents received Rs.8354 and Rs.5748 respectively as wage from agricultural operations in a year. Male respondents received more wages during the months of December (Rs1070) and September (Rs 1031). Female respondents received more wages during the months of June (Rs 957) and October (Rs 934).

27. Male and female respondents received Rs.5508 and Rs.2047 respectively as wage from non-agricultural operations in a year. Male respondents received maximum wages in the month of April (Rs1198). Female respondents received more wages during the month of December (Rs 560).

28. The total wage received by male respondents in a year was Rs13862((Rs.8354 from agricultural labour + Rs.5508 from non-agricultural labour).The total wage received by female respondents was Rs.7795(Rs.5748 from agricultural labour + Rs.2047 from non-agricultural labour)

29. The agricultural operation that fetch maximum wage was ploughing (Rs. 350) followed by cleaning and levelling of main field for rice cultivation and pandal making in vegetables (Rs.150).

30. Wage discrimination was not much prominent in agricultural sector. Regarding transplanting male and female labourers received Rs.80 and Rs.50 as wage respectively. Likewise in the case of sowing/planting in vegetables male and female labourers received Rs.100 and Rs.75 respectively. The cause for the

wage difference is that male labourers perform more volume of work than their female counterparts within the same time span.

31. Absolute wage discrimination was witnessed in the non-agricultural sector. Regarding construction work men received Rs.150 and women received Rs.100.The cause for the wage difference in non-agricultural sector is that male labourers perform more strenuous tasks than female labourers.

32. Results of the correlation studies between the profile characteristics and the attitude towards improved farm practices revealed that age, family educational status, occupation, land holdings, annual income, experience in agriculture labour, mass media exposure, economic motivation and contact with extension agency were highly significantly related to attitude towards improved farming practices for both male and female respondents.

33. Correlation between profile characteristics and extent of labour participation, in the case of male respondents was as following: Of the 15 independent variables studied in case of rice crop seven variables were positive significantly correlated.They were age, occupation, land holdings, annual income, experience in agriculture labour, economic motivation and work commitment. With respect to banana, among the 15 independent variables correlated four variables were found to be positive and significantly correlated. They were occupation, annual income, economic motivation and work commitment. Age was negatively and significantly correlated with extent of labour participation. In vegetables the three variables, which established positive significant correlation were occupation, annual income and economic motivation. All the independent variables exhibited insignificant relationship with the extent of labour participation in pulse cultivation.

34. Correlation between profile characteristics and extent of labour participation, in case of female respondents was as following: Of the 15 independent variables studied in case of rice crop six variables were significantly correlated at 5% level. They were age, occupation, annual income, experience in agriculture labour, economic motivation and work commitment. With respect to vegetable

cultivation, among the 15 independent variables correlated two variables were found to be positive and significantly correlated at 5% level. They were occupation, annual income and economic motivation. Age was negatively and significantly correlated with extent of labour participation. In pulse crop all the independent variables exhibited insignificant relationship with the extent of labour participation except economic motivation, which was significant at 5% level.

35. In general, the constraints encountered by the male respondents were reduced employment opportunities within agricultural sector, conversion of rice farming land for commercial crops cultivation and other non-agricultural purposes, pressure to shift in non-agricultural sector, more involvement of family labour, preference of particular labourer by employer, low price of agricultural commodities, lack of knowledge of improved farm practices and farm implements, unnecessary political interference, absence of Governmental support and negative attitude towards agriculture.

36. Most of the constraints experienced by female and male labourers were same except for a few like that of drudgery prone tasks, seasonality of labour, preference of male labourers, absence of effective labour union and absence of gender neutral farm implements which were faced exclusively by the female respondents.

Suggestions for future research

1. For generalisation of findings, similar studies could be conducted in other districts also, as the present study was confined to only one district.
2. Similar studies can be conducted with other farming systems like coconut based farming system, tapioca based farming system and homestead based farming systems.
3. Due to the limitation of time and resources, only few variables could be studied in this study. Many more variables can be studied in this connection.

4. More studies can be conducted regarding the efficiency of extension agency contact and mass media utilization by the agriculturists.
5. A multi disciplinary research team must explore the problems and prospects of rice based farming system in Kerala.

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* Orginals not seen.

Appendices

APPENDIX – I

Selection of variables for the study

KERALA AGRICULTURAL UNIVERSITY

College of Agriculture,

Vellayani, Thiruvananthapuram-695522

Dr.A.Anil Kumar
Assistant Professor

Department of Agricultural Extension,
Dated:05.05.05

Sir / Madam,

Ms. P. R. Prasidha, M.Sc student of this department has taken up a research study entitled **"Agricultural labour in rice based farming system: A gender based multidimensional analysis"** under my guidance. The objectives of the study are, to study the female and male labour participation in the major operations of rice based farming system, their employment pattern and profile characteristics. The study also focuses on influence of labour organizations among agricultural labourers, the constraints experienced by the female and male agricultural labourers and their attitude towards improved farm practices.

The independent variables related to the study have been identified based on review of literature and discussion with experts. These are listed in the annexure along with their operational definitions. I request you to spare some time from your busy schedule to rate the listed variables by putting a tick mark (✓) in the appropriate column. Kindly add any other dimension, if considered appropriate with necessary comments.

Thanking you,

Yours faithfully,

A. Anilkumar

Sl.No	Variables	Most relevant	Relevant	Least relevant
1.	**Age:-** Age refers to the number of completed years of the respondent since birth at the time of enquiry.			
2.	**Family educational status:-** Family educational status will be operationalised as the extent of formal or informal learning possessed by the family members of the respondent at the time of interview.			
3.	**Caste:-** Caste refers to the caste hierarchy of the respondent whether belongs to forward / backward / scheduled caste.			
4.	**Occupation:-** Occupation will be operationalised as the primary activity in which the respondent is engaged for the livelihood.			
5.	**Annual income:-** Annual income will be operationalised as the total income of the respondents obtained from both agricultural and other subsidiary occupation for a period of one year.			
6.	**Dependency:-** Dependency will be operationalised as the number of persons above the age of 14 who are solely dependent on an individual / head of the family.			
7.	**Land holding:-** Land holding will be operationalised as the total land area cultivated by respondent, which includes both owned and leased in.			
8.	**Experience in agricultural labour:-** Experience in agricultural labour will be operationalised as the total number of years the respondent had been engaged in doing agricultural labour as occupation.			

9.	**Mass media exposure:-** Mass media exposure will be operationalised as the degree to which an individual has accessed mass media information sources for obtaining agricultural information.			
10.	**Credit orientation:-** Credit orientation will be operationalised as the orientation of the respondent to take advantage of the existing public credit institutions, which includes borrowing, as well as repayment behaviour of the individual.			
11.	**Achievement orientation:-** Achievement orientation will be operationalised as the value associated with the respondent which drives him / her to excel in farming and thereby attain a sense of personal accomplishment.			
12.	**Contact with extension agency:-** Contact with extension agency will be operationalised as the frequency with which an agricultural labourer comes in contact with an extension agency in a specific period of time.			
13.	**Political participation:** Political participation will be operationalised as the extent of involvement and the frequency of participation in various activities of the political organization.			
14.	**Labour union participation** Labour union participation will be operationalised as the degree of involvement of the respondent from mere membership to the possesment of organizational positions and his/her frequency of participation in the activities of labour union.			

15.	**Economic motivation:-** Economic motivation will be operationalised as the extent to which a person is oriented towards profit maximization and relative value he places on monetary gains.			
16.	**Communicability:-** Communicability will be operationalised as the degree to which the benefits of technology could be communicated and diffused to others.			
17.	**Work commitment:-** Work commitment will be operationalised as the degree, which the respondent feels committed in the work performed so as to increase the agricultural production of the employer farmer.			
18.	**Time Utilization Pattern:-** Time utilization pattern will be operationalised as the time spent by the respondent for various activities in a day to meet all the duties and responsibilities.			
19.	**Occupational mobility:-** Occupational mobility will be operationalised as the extent to which the respondent strives to take up occupations other than caste occupations.			
20.	**Influence of female and male agricultural labourer towards labour union:-** Influence of female and male agricultural labourer towards labour union will be operationalised as the degree to which the attitude and activities of the respondents are affected or modified by being a member of an agricultural labour union.			

21.	**Fatalism:-** Fatalism will be operationalised as the belief of the respondent that human situations and acts were predetermined by some super natural power and can never or little be influenced by individual or by act of any one else.			
22.	**Gender roles in rice based farming system:-** Gender roles in rice based farming system will be operationalised as the set of behaviour pattern consisting of duties, activities and privileges associated with the female and male agricultural labourers employed by the farmers in rice based farming system.			
23.	**Cosmopoliteness:-** Cosmopoliteness will be operationalised as the degree to which the respondent is oriented to his / her immediate outside social system			
24.	**Migration:-** Migration will be operationalised as the act of shifting of residence of an individual from his / her native place to some other place for employment or other reasons.			
25.	**Empathy:-** Empathy will be operationalised as the ability of an individual to project into the role of another individual.			

Signature :

Name and Designation :

Address :

APPENDIX - II

INTERVIEW SCHEDULE

AGRICULTURAL LABOUR IN RICE BASED FARMING SYSTEM: A GENDER BASED MULTIDIMENSIONAL ANALYSIS

Date :

Panchayat :

Respondent No:

1. Name

2. Address

3. Age

4. Caste

5. Family educational status

Sl.No	Members	Sex	Age	Educational status				
				Illiterate	Primary	Secondary	Graduate	Post graduate

6. Occupation

Please tick (✓) to which category you belong to:-

1. Agricultural labour is the sole occupation
2. Agricultural labour is the main occupation with some other subsidiary occupation
3. Some other is the main occupation and agriculture is a subsidiary occupation

7. Land holdings

Please mention the total area of rice cultivated by you currently (both owned + leased in)

---------- acres / cents / hectares

8. Annual income

9. Farming experience ---------- yrs

10. Mass media exposure

Sl.No	Media	Frequencies		
		Regularly	Occasionally	Never
1.	Radio			
2.	Television			
3.	Newspaper			
4.	Farm magazines			
5.	Bulletins / leaflets			
6.	Books			
7.	Internet			

11. Economic motivation

Kindly indicate your response to the following statements

Sl.No	Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
1	The most successful agricultural labour is one who makes maximum profit					
2	An agricultural labour should work towards higher economic profits					
3	In addition to agricultural labour, I would like to take up some other enterprise to earn more money.					
4	I would work hard without rest in order to earn maximum money to run my family					
5	All I want from my job is to make just a reasonable income for the family					
6	An agricultural labour must earn for his living but the importance in life cannot be defined in economic terms					
7	It is difficult for the children of the labourers to make a good stand unless he/ she provides them with economic assistance					

12. Contact with extension agency

Kindly indicate your response to the following

Sl. No	Personnel	Frequencies			
		Once in a week	Once in a month	Occasionally	Never
1	Agricultural Assistant				
2	Agricultural Officer				
3	Agricultural Scientist				
4	N.G.O's (specify)				
5	Others (specify)				

13. Political participation

Kindly indicate your response for the following statements

1) Are you not all interested in politics Yes / No
If yes, name of the political organisation

2) Do you sympathize with any political organisation Yes / No
If yes, name of the political organisation

3) Are you a member of the political organisation Yes / No

4) Are you an office bearer of the political organisation Yes / No

3) Frequency of participation in labour political organisation activities
Regularly / Occasionally / Never

14. Labour union participation
Kindly indicate your response for the following statements

1) Are you a member of any agricultural labour union Yes / No
If yes, name of the labour union

2) Whether your labour union is affiliated to any political organisation Yes / No
If yes, name of the political organisation

3) Frequency of participation in labour union activities
Regularly / Occasionally / Never

15. Feeling of responsibility in increasing agricultural production
Please indicate your degree of responsibility in increasing agricultural production

a) Very much responsible b) Responsible c) Undecided d) Not responsible

16. Time utilization pattern

Kindly mention the average time spent by you for the following activities

Sl.No	Activities	Average time spent (Hrs / Day)
1	Employment	
2	Household activities	
3	Personal time	
4	Social interactions	
5	Recreation	
6	Sleeping	

17. Influence of labour organisations towards agricultural labourers

Please indicate the degree of your agreement towards each of the following statements

Sl.No	Statements	Strongly agree	Undecided	Strongly disagree
1.	Labour union helps in wage enhancement			
2.	Labour union encourages solidarity of the labourers			
3.	Labour union provides a sense of security to its members			
4.	Labour union increases the social status of its members			
5.	Social participation is increased by the members in labour union			
6.	Labour union provides more employment opportunities			
7.	Membership in a labour union leads to the empowerment of female agricultural labourers			
8.	As the labourers commitment towards union activities increase their commitment towards work will decrease			
9.	Preference by the employer, for the non labour union members is higher than the labour union members			
10.	Membership in a labour union causes subjugation of individual interests to that of the union interests.			

18. Gender roles and Extent of labour participation in rice based farming system

Please indicate how often you perform these activities in receipt of wages either cash / kind

Sl.No	Items	Most often	Sometimes	Never
	RICE			
	Pre-harvesting stage			
	Ploughing			
	Cleaning of field boundaries			
	Seed treatments			
	Nursery sowing			
	Trampling			
	Pulling of seedlings			
	Transporting and spreading of seedlings			
	Transplanting			
	Irrigation			
	Weeding			
	Fertilizer application			
	Plant protection measures			
	Any others (specify)			
	Harvesting stage			
	Reaping the crops			
	Bundling and transportation			
	Any others (specify)			
	Post harvesting stage			
	Threshing grains			
	Winnowing			
	Storage of grains			
	Heaping and storage of straw			
	Any others (specify)			
	BANANA			
	Taking pits			
	Preparation of suckers for planting			
	Transportation of suckers			
	Planting			
	Organic manure application			
	Staking			
	Fertilizer application			
	Plant protection chemical application			
	Harvesting			
	Transportation			
	Any others (specify)			
	VEGETABLES			
	Land preparation			
	Sowing / Planting			
	Fertilizer application			
	Irrigation			

	Pandal formation Weeding Spraying of plant protection chemicals Harvesting Transportation of harvested produce Any others (specify) **PULSES** Sowing Picking Any others (specify) **DAIRY** Feeding animals Cleaning animals Maintenance of cattle shed Milking animals Taking animals for grazing Any others (specify)			

19. Attitude of female and male agricultural labourers towards improved farm practices

Please indicate your degree of agreement or disagreement for the following statements

Sl.No	Statements	SA	A	UD	DA	SDA
1	The introduction of improved farm practices has created more job opportunities for agricultural labourers					
2	The introduction of improved farm practices is a blessing for agricultural labourers					
3	Working in the farm with improved practices is the best and I would not change my job for another					
4	The improved farm practices made each and every agricultural labourer independent and self reliant					
5	Only by following improved farm practices agricultural production can be increased					
6	Improved farm practices provide a lot of employment avenues to the educated unemployed youth					

7	The improved farm practices have nothing new to offer to agricultural labourers					
8	The improved farm practices are mainly suited to literate agricultural labourers					
9	There is no change in the wage rate due to the introduction of improved farm practices					
10	All women agricultural labourers cannot perform improved farm practice, as it requires skill					
11	The use of chemicals make agricultural labourers work with risk					
12	It is sin on the part of agricultural labourers to do away with traditional practices					
13	The use of chemicals makes agricultural labourers work with risk					
14	It is a sin on the part of agricultural labourers to do away with traditional practices					

20. Constraints experienced by the female and male agricultural labourers

Kindly mention the constraints in rice based farming system, which you perceive as important

172616

21. Employment pattern and Wage structure of agricultural labourers

Kindly indicate your response

Month	Name of the operation		Average time spent		Number of labour days		Wages/operation		Total wages earned	
	Agrl.	Non Agrl.	Agrl.	Non Agrl.	Agrl.	Non Agrl.	Agrl.	Non Agrl.	Agrl.	Non Agrl.

AGRICULTURAL LABOUR IN RICE BASED FARMING SYSTEM: A GENDER BASED MULTIDIMENSIONAL ANALYSIS

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Abstract of the
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ABSTRACT

The study entitled "Agricultural labour in rice based farming system: A gender based multidimensional analysis" was undertaken to study the female and male labour participation in the major operations of rice based farming system, their employment pattern and profile characteristics. It also aims to study the influence of labour organizations among agricultural labourers, the constraints experienced by the female and male agricultural labourers and their attitude towards improved farm practices.

The study was conducted at Kunnathukal panchayat and Karode panchayat in Thiruvananthapuram district. A list of agricultural labourers in the two selected panchayats was prepared. From each panchayat 40 male and 40 female labourers were selected randomly. Thus totally 160 labourers were selected as the respondents of the study. The data were collected using a pre-tested and well-structured interview schedule.

The study indicated that agricultural labourers in rice based farming system constituted mainly of old age people. Almost 90 percent of the respondents don't possess land for own cultivation. Extension agency contact was almost nil for landless labourers. *Kerala State Karshaka Thozhilai Union* (KSKTU) was the only labour union functioning in the location.

The study revealed that regarding gender roles, exclusively females performed transplanting in rice. None of the female labourers were employed for banana cultivation. Operations like land preparation, plant protection measures, fertilizer application and transport of harvested produce were operations segregated absolutely for male respondents. Men never perform picking and women never perform sowing in case of rice fallow pulse cultivation. Only males were employed as hired wage labour dairy sector, provided paid on a monthly basis. The maximum extent of labour participation of females was in the order of rice, vegetables and pulses and among males it was rice, banana, vegetables and pulses.

The total number of employment days obtained by male respondents in a year was 112 days (67 days of agricultural labour + 35 days of non-agricultural labour). The total number of employment days obtained by female respondents in a year was 68 days (51days of agricultural labour + 17 days of non-agricultural labour). Men received more days of agriculture labour in the months of October and November and more days of non-agriculture labour during April. Women received more days of employment in agriculture during June. They experience slack of employment in non-agricultural sector during the months of Febrauary, May, June, July, August, September and October.

In the case of rice farming male and female labourers performed 23 and 33 labour days respectively. Male labourers obtained 22 labour days of work in banana cultivation. In the case of vegetable cultivation male and female labourers performed 20 and 13 labour days of work respectively. Male and female respondents respectively received 2 and 5 labour days of work regarding pulse farming. The agricultural operation, which consumed maximum time, was transplanting in rice (10 hrs) followed by rice harvesting and staking in banana (8hrs). The non-agricultural operation that consumed maximum time was roadwork (9hrs).

The total wage received by male labourers in a year was Rs.13862 ((Rs.8354 from agricultural labour + Rs.5508 from non-agricultural labour). The total wage received by female respondents was Rs.7795. (Rs.5748 from agricultural labour + Rs.2047 from non-agricultural labour). Wage discrimination was not much prominent in agricultural sector, whereas non-agricultural sector witnessed absolute wage discrimination between genders.

In general, the constraints encountered by the agricultural labourers were reduced employment opportunities within agricultural sector, conversion of rice farming land for commercial crops cultivation and other non-agricultural purposes, and pressure to shift in non-agricultural sector. Seasonality of labour and drudgery prone tasks were the constraints experienced exclusively by the female labourers.